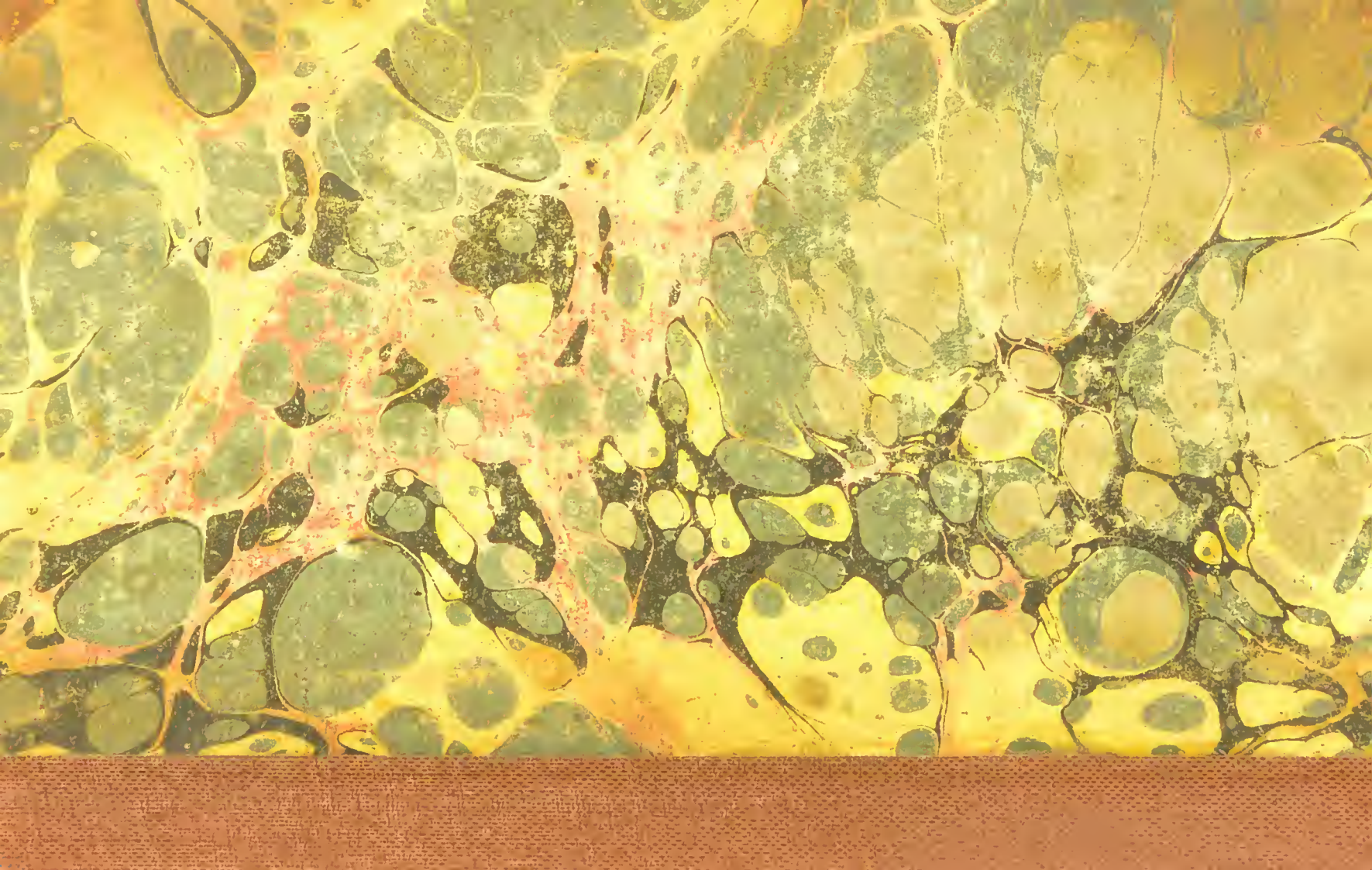

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OBSERVATIONS

ON THE

NATURE, KINDS, CAUSES,

AND PREVENTION OF

INSANITY,

LUNACY,

OR

MADNESS.

By Thomas Arnold, M. D.

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VOL. II.

CONTAINING

OBSERVATIONS ON THE CAUSES, AND PREVENTION OF INSANITY.

Ταράσσει τὲς ἀνθρώπες, ἐ τὰ πράγματα, ἀλλὰ τὰ περὶ τῶν πραγμάτων δογματα.

EPICTETI *Enchirid.* Cap. X.

Men are not disturbed by things themselves; but by the opinions which they form concerning them.

And moody Madness laughing wild
Amid severest woe.

GRAY.

LEICESTER:

PRINTED BY G. IRELAND, FOR G. ROBINSON, IN PATER-NOSTER-ROW, AND T. CADELL, IN THE STRAND, LONDON. M.DCC.LXXXVI.

Non impune unquam venas inflantur Jaccho:
Non veneri crebro licet unquam impune litare:
Non duros poterunt ullos tolerare labores
Conſtanter; nec longa quidem jejunia ferre:
Lucubratio denique obeſt inſigniter uſque.

FLEMYNG *Neuropath*, Lib. I. p. 281, &c.

Nam neque ſors hominum eſt adeo miſeranda graviſque,
Hæc ut, ſi parent Naturæ ligibus æquis,
Irruat, & cumulo ſeſe addat ſponte malorum.
Culpa opus, ut morbi moles condatur acerba.
Quo magis hæc ——
Pectoribus ſcribenda imis, ſignandaque firme;
Ut Morbi ærumnas vitare queamus amaras.

ID. *ib.* v. 302, &c.

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PREFACE.

I NOW present to the world my *second volume* of *observations on Insanity*; the publication of which has, by various weighty, and invincible, impediments, been much longer delayed, than I expected at the time when the *first volume* issued from the press. What have been the causes of delay, concerns chiefly myself, and can but little interest the reader. Such as it is, the complete work is now presented to the public; and whatever may be the opinion of the execution, the attempt, I am persuaded, will be thought to merit approbation.

I am

I am happy to learn, that the *firſt volume* has been thought, by men of great reſpectability in the medical profeſſion, to deſerve attention. Of this I am certain, that the greateſt part of it is the reſult of experience, and founded upon actual obſervation. Some few, I underſtand, have objected to it, that I have extended the boundaries of Inſanity too far; and have either not at all, or not ſufficiently, diſtinguiſhed it from mere vice, and folly; from the moral Inſanity of the Stoics. If I have really confounded them, it was not my intention. I thought I had abundantly guarded againſt the poſſibility of ſuch a miſtake. There are very few definitions in the whole book, which were not drawn

up

up from examples of actual cases of Insanity, which had fallen under my own inspection. And, indeed, after a careful review of all that I have said upon the subject, I cannot but persuade myself, that the persons who have made the objection, would not have made it, had they attended sufficiently to the whole tenor of the work.

I SHOULD have been more flattered by the approbation of my venerable, and respected PRECEPTOR, the very ingenious Dr. CULLEN; had he not qualified it by a reflection, which, though of little force in reality, cannot fail to derive great weight from the influence of his authority. Without defending myself in what I think needs

needs no defence, I ſhall only obſerve, that the objection would be of equal validity againſt Dr. CULLEN's own elaborate ſyſtem of Noſology; and eſpecially with the aid of thoſe weapons with which we are occaſionally furniſhed by his *firſt lines of the practice of Phyſic*: but that ſuch a mode of attack would be unfair againſt either of us: and that it is equally unfair to object, either to deſcriptions drawn from nature, or to the diſcoveries of new appearances, which are both real acquiſitions to ſcience; witneſs the numerous deſcriptions of LINNÆUS, and his followers, and the wonderful diſcoveries of PRIESTLEY, and HERSCHEL; that we do not at preſent know how to apply them to uſe; ſince truth is always valuable, and the acquiſition of new truth ever to

to be desired, and will rarely fail, at some time or other, to lead to important purposes, though we may be unable, at present, to form the most distant conjecture of what those purposes may be. The ardour for discovery would be almost entirely suppressed, and science would make but very slow advances, were nothing to meet with a favourable reception from the public, of which it was difficult, immediately, to perceive the application.

I FLATTER myself, however, that I have found much valuable practical advantage from the distinctions I have adopted. And I hope they will be allowed by all to be useful, as furnishing a nomenclature on the subject of Insanity; and enabling as to convey

convey our ideas relative to this diſorder, and to deſcribe its appearances in particular caſes, with much more conciſeneſs, and preciſion, than we were able to do while no other diſtinctions were known, or attended to, than thoſe of Mania, and Melancholia.

The truth of theſe obſervations will, I preſume, in part receive confirmation from the preſent volume: on the contents of which I have beſtowed much pains; and, I hope, not altogether without ſucceſs; though I muſt acknowledge that I ſtand greatly in need of the candour, and forbearance, of the philoſophical reader; who if he find ſomething to commend, will, I fear, meet with more than I could wiſh, which may

no

not receive his entire assent, and approbation. But the novelty, and difficulty, of my subject, will, I allow myself to believe, plead powerfully in my favour; and contribute to secure to me the desirable encouragement of the good opinion of the public.

LEICESTER, *May* 8,
1786.

On a reviſal of the enſuing ſheets, ſeveral errors, chiefly literal, have been obſerved. The following are the moſt material.

P. 9. l. 20. *for* Pozzio *read* Pozzis.
17. l. 18.——for——of.
31. l. 14.——(10)——(13).
32. l. 2.——(6) (13)——(4) (7).
l. 10.——diſcolouration——diſcoloration.
69. l. 22.——*read* plain and direct.
83. l. 21.——ſuppoſed.
95. l. 18.——ſeparated.
109. l. 13.——ſeparation.
111. l. 14.——it appears *read* animal life appears.
125. l. 2.——animal actions——natural actions.
132. l. 6.——*read* phenomena.
148. l. 13.——and——as.
153. l. 10.——*dele* very.
198. l. 6.——*read* economy.
210. l. 22.——468——486.
212. l. 5 & 9.——*read* effluvia.
223. l. 16.——aſſimilated.
224. l. 7——digeſtion and chylification.
231. l. 12.—— intolerable.
208. l. 21.——blood-veſſels.
273. l. 8.——the circumſtances.
294. l. ult.——admits of and requires
336. l. 19.——any evil——evil.
343. l. 7.——yet.
356. l. 31.——believed——believe.
420. l. 22.——an involuntary.
439. l. 5 & 6.——imbecillity.
440. l. 5.——imbecillity.
521. l. 7.——her her own dowry.
l penult.——examined——examine.

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Of the PREVENTION *of* INSANITY

SECTION IV.

Of the APPEARANCES *on* DISSECTION.

DISSECTIONS of bodies after death, with a view to discover the real seats, immediate causes, and internal effects of diseases, although they too often throw much less light on these matters than is wished for by the curious investigator, or the humane physician, are yet of no inconsiderable assistance towards the improvement of our knowledge of the nature, and cure, of the many dreadful maladies which afflict our feelings, and destroy our frame: and it is much to be lamented that the necessary, and inherent imperfections, of this mode of investigating the causes of diseases, should be not a little increased by the frequent inattention, and inaccuracy, of those who have dissected, and described the appearances of morbid bodies:—for not only are we liable to err in

many caſes, even where we carefully examine the appearances after death, with our own eyes, or have a full, and diſtinct, relation of them from other capable, and accurate obſervers; and to miſtake cauſes for effects, and effects for cauſes; but, to increaſe our difficulties, and multiply the ſources of error, of the hiſtories of diſeaſes which we meet with in the writings of phyſicians, very few are pure, and complete in all their parts; and too many are miſerably inaccurate, redundant, or deficient, in a variety of reſpects. And in ſcarcely any inſtance are they leſs deciſive, either in conſequence of the obſcurity of the ſubject, or of the prejudices, and inattention, of the writers, than in thoſe which relate to the diſorder which is the object of our preſent conſideration. Even the hiſtories of the great, and accurate, MORGAGNI, are, on this head, exceedingly looſe, and imperfect: for, however exact the deſcription of the appearances of the brain, that of the contents of the abdomen, as well as the hiſtory of the diſeaſe, is, in almoſt every inſtance, either greatly defective, or entirely wanting:

—what

——what then could be expected from the indiſcriminate collections of the laborious, but leſs judicious, BONETUS? ——For want, however, of better materials, I muſt content myſelf with giving little more than a ſynoptic view of the more important facts contained in their relations.

I. *According to* BONETUS.

THE appearances on diſſection of the bodies of ſuch perſons as, in the common acceptation of the term, had been eſteemed MANIACAL, were, according to BONETUS,* as follows:——

THE CONTENTS of the SKULL were ſometimes found ſo turgid, on taking off the upper part of it, as immediately to expand, and not to admit of being again compreſſed into their former dimenſions, and contained,

* Vide BONETI *Sepulchret.* Lib. 1. Sect. viii. *de Mania & Rabie ſeu Hydrophobia.*—Et Sect. ix. *de Melancholia & Affectione Hypochondriaca:* cum additamentis. Tom. 1. p. 205—253.

as before, within the limits of the ſkull. (1)

THE SUTURES were found obliterated; the DURA MATER adhering to the ſkull in ſeveral places; (2) inſinuating itſelf into the Sutures, and retaining the traces of them when the upper hemiſphere of the ſkull was torn away. (1)

THE

(1) This was the appearance on opening the ſkull of a boy of five years of age, who, with a moderate fever, and a pain in the head, was quite phrenitic, and died after four days illneſs. *Obſ.* 2. p. 208—9.

(2) This was obſerved in diſſecting the body of a gentleman, who in his youth had been conſpicuous for his excellent endowments both of body and mind; but becoming inſane, from ſome unknown cauſe, was at length ſo violently maniacal, that he was kept chained in priſon for thirty years; and would eat ſtraw, lime, his own dung, or any kind of naſtineſs. For the laſt ſix years, however, of his life, his fury was ſo much abated, in the intervals of the full moon, that he was no way diſpoſed to hurt any body, and was ſuffered to go at large within the area of the priſon; and, though he ſtill eat whatever came in his way, he had ſo much remaining ſenſe, that he could ſometimes recollect paſt events, would anſwer to queſtions which were put to him, and could read very well the French or Italian, as well as his native language. For two years before his death he was exceſſively coſtive, having a ſtool, at firſt, only once in about a week; and the interval, by degrees, increaſing to four, five, ten, twelve, and even fifteen weeks; ſo that his belly became extended to an enormous ſize: yet during all this time he had a large appetite. He had once a ſpontaneous diſcharge of ſo vaſt a quantity of excrement,

THE VESSELS which run along the DURA MATER were found turgid with black blood, (1) and ſometimes ſo dilated as to appear *varicous*. (3) This membrane has alſo been obſerved to be marked with black ſpots;

crement, which had been long collecting, that his belly became quite flabby, and wrinkled. In ſhort, having, at laſt, been without a ſtool for ſixteen weeks, he grew thirſty, loſt his appetite, drank great quantities of cold water, the ſize of his belly daily increaſed, the reſt of his body fell away, his ſtrength failed, he languiſhed, and expired.

Among other appearances, there was water in the cellular membrane, and in the cavity of the abdomen; the *rectum* & *colon* almoſt entirely filled the remaining ſpace, the *latter* being greatly diſtended, and the *former* to the immenſe ſize of more than an ell in circumference. The *ſtomach*, when opened, ſaluted the noſes of all preſent with an exceſſively acid ſtench. The *meſentery* was ſprinkled with innumerable glands of about the ſize of peas. The *ſpleen* was ſmall, and when cut open, and preſſed with the finger, was readily broken down into a red ſanies. The *pancreas* was very large. The left *kidney* was ſurrounded by ſix hydatids; one of the ſize of a pigeon's egg, of a livid colour, and reſembling a venous ſack; the others all tranſparent, and filled with ſerum, ſome of them about the ſize of large, and ſome of ſmall walnuts.——The remaining appearances, of more immediate conſequence, are related in the text.——*Obſ.* 1. of the *Additamenta*. p. 245—7.

(3) In the diſſection of many bodies of *maniacs*, who had been originally melancholy; as obſerved by BALLONIUS.——*Obſ.* 6. p. 209.

ſpots ; (4)—and has ſometimes appeared, by places, quite corrupted, or purulent. (5)—The SINUSES have, alſo, been found vaſtly diſtended with blood. (1)

THE PIA MATER has likewiſe, had its BLOOD VESSELS more or leſs enlarged, and dilated with black blood ; (1) and has ſometimes cloſely adhered to the dura mater, and forgot to inſinuate itſelf, as it ought to do, into the numerous convolutions of the brain. (2)

WATER has alſo been met with, and even in a large quantity, in the ventricles, (1) and other parts of the brain. (2)

THE PLEXUS CHOROIDES has been found very large, ſpreading quite over the inſide of each ventricle, compoſed of many very

(4) An obſervation of PLATERUS, who ſays, that ſuch a ſpot has been found on diſſection to have been the cauſe of *mania*.——*Obſ.* 3. p. 209.

(5) An obſervation of the *ſame writer*, and to the ſame purpoſe.——*Obſ.* 4. p. 209.

ry conſiderable branches of blood veſſels from the carotids ; and covered all over with livid veſicles, or *hydatids*, like peas, which, when broken, poured out a gelatinous livid ſerum : from the *plexus* four large veins, filled with fluid blood, have been obſerved to proceed from the baſe of the *pineal gland*; but, in this caſe, none of thoſe veſſels from the medullary ſubſtance of the brain, which are uſually ſaid to be inſerted in that gland, could any where be found. (2)

THE PITUITARY GLAND, in one inſtance, diſſolved into water on being touched. (2)

THE PINEAL GLAND was in the ſame ſubject found more ſolid than uſual ; and ſo beſprinkled with innumerable minute blood veſſels, as to appear perfectly red. (2)

AND the RETE MIRABILE was quite obliterated. (2)

THE SEPTUM LUCIDUM appeared, in the

the *ſame* diſſection, beſprinkled with bloody ſpots; (2) and, in *another*, the CORPUS CALLOSUM, particularly when preſſed with the fingers, had a ſimilar appearance. (1)

THE SUBSTANCE OF THE BRAIN has been found marked with a black ſpot: (4) — ſometimes with an infinite number of bloody ſpots; and eſpecially on preſſing it: (1) — and, in one caſe, it was obſerved to be very *dry*, *hard*, *friable on the ſurface*, and every where tinged with a yellow colour, to about the breadth of a finger below the ſurface. (6)

IT has, likewiſe, *been ſaid* that WORMS have been found in the *brain*; (7) and there ſeems

(6) This patient was at firſt affected with deep melancholy, in conſequence of misfortune; was in a few days after ſeized with an acute fever, without delirium, which left him in a ſtate of idiotiſm; at length he became quite *furious*; and about the end of the fourth year, died an idiot.——*Obſ.* 1. p. 205.—See the caſe at large in Lib. 1. § 4. *Obſ.* 5. Tom. 1. p. 179.

(7) *Obſ.* 5. § 1. 2. 3.——The caſe mentioned in the ſecond ſection, is borrowed from FERNELIUS; and as the patient, who was a ſoldier, is ſaid to have long had a foul diſcharge from the noſtrils, the worms were probably introduced that way, and found

ſeems to be no reaſon to doubt that they have been evacuated from the *noſtrils* (8) of *maniacal* patients.

IN

found in the frontal ſinuſes; or if they were actually met with in the cavity of the Cranium, they can only be ſuppoſed to have penetrated ſo far, in conſequence of the bone being carious. FERNELIUS ſays the patient died in about 20 days.——*Patholog.* Lib. 5. cap. 7. *Medicin. Univerſ.* Tom. 2. p. 96.—— See ſome valuable obſervations on the ſubject of worms, idly ſuppoſed to be generated in the brain, in the accurate, and judicious MORGAGNI's firſt epiſtle *de Sedibus & Cauſis Morborum*, n. 8. 9. *Operum*, Tom. 3. p. 67.——SAUVAGES has a ſpecies of *maniacal Inſanity* which he terms *Mania ab Hemicrania*; and mentions two inſtances in which it had been produced by worms in the frontal ſinuſes: one from SCHNEIDER *de oſſe cribriformi*, p. 440, of a peaſant who was cured by the evacuation of a hairy caterpillar by the noſtrils; and the other from the *Ephemerides Naturæ Curioſorum*, Decad. 1. Anno 4. Obſ. 37, where ANTONIUS *de* POZZIO relates the hiſtory of another peaſant who was *maniacal* for ſix months after ſleeping under a tree, and was at length cured by the uſe of ſnuff as a ſternutatory, which brought away, in like manner, a long, hairy, caterpiller. He adds the caſe of another *maniac*, of this ſort, who threw himſelf out of a window, and fractured his ſkull; and was happily freed from his diſorder by the diſcharge of a large quantity of purulent matter, which flowed as he ſuppoſes, from the frontal ſinuſes.——*Noſolog. Method.* Claſs viii. Gen. 20. Spec. 3. Tom. 3. Part. 1. p. 405.

(8) This, as I have juſt obſerved in the preceeding note, was probably the caſe of the ſoldier whoſe hiſtory is extracted from the Pathology of FERNELIUS. Several hiſtories of this ſort might

IN the bodies of ſuch as have been afflicted with MELANCHOLY, the following appearances have been obſerved after death :——

THE BLOOD VESSELS have been unuſually large, and diſtended with florid, with black, and ſometimes with concreted blood, in the DURA MATER (1) (5), in the PIA MATER (1) (5), and on the SURFACE *of the* BRAIN (1) (7) : ——the *pia mater*, on the right ſide, has not only had its veins turgid with black concreted blood, but has itſelf been quite black (6) :——this membrane has alſo been much thickened, and has neglected to inſinuate itſelf, as uſual, between the convolutions of the brain (5) :——ſanious matter,

might be quoted. I ſhall only mention one, extracted by DOLÆUS from the German Ephemerides, Ann. III, of a *peaſant, who, after ſleeping under a tree, was maniacal for half a year; when, on taking an ounce of ſnuff, which excited a violent ſneezing, he diſcharged from the noſe a long, black, hairy, maggot, and perfectly recovered his ſenſes.*——Vide DOLÆI *Encyclopæd. Medicin. Theoret. Pract.* Lib. 1. cap. 4. § 11. p. 44.

(1.) In a man who had an obſcure fever, was *ſilent*, thirſty, comatous,

matter, and water, have floated on the surface of the brain (5), and the brain itself has been eroded (7).——Also, sanious, mucous, and purulent matter (7) (8), and large quantities of water (1) (5), have been found in the LATERAL VENTRICLES:——the surface of the lateral ventricles has been lined with a yellow, or rather rusty mucus, resembling, in appearance, the sediment which lines the reservoirs of chalybeate waters; the PLEXUS CHOROIDES, and the *third* VENTRICLE, covered with the same rusty mucus; but the *fourth* VENTRICLE quite free from it (5).

THE

comatous, somewhat *lethargic*, had a violent *pain in his head*, and at length died.——SECT. IX. *Obs.* 1. p. 221.

(2.) In a man, who died melancholy. ——*Obs.* 41. p. 241.

(3.) As in the case of CASIMIR, *Marquis of* BRANDENBURGH, in consequence of much grief, and watching.——*Obs.* 5. § 1. p. 223.—— And

THE HEART has been perfectly dry (16) (2), ſhrivelled, and reſembling a roaſted pear (3) : the blood ſo dried up that a very expert ſurgeon, who opened the body, was unable to diſſect the heart properly, or to trace any of its veſſels (41) : it has been immenſely large, and of a pale lead colour (21) : and it has been ſurrounded with a great quantity of fat (33).

THE HEART, on being *opened*, has been obſerved to pour out a large quantity of black gore (7) : —there has been found in the right ventricle,

And, alſo, in that of a lady who, being in a deep *melancholy*, hanged herſelf ; and whoſe heart, on diſſection, was found to be dry, and without a drop of blood in its ventricles.——*Obſ.* 5. § 2. p. 223.

(4.) In a woman, who had been afflicted with *hypochondriacal melancholy*.——*Obſ.* 4. p. 222. and *Obſ.* 12. p. 226.

(5.) It appears to have been florid in the caſe of a woman, who, after having long been ſubject to a violent *headach*, had an *apoplectic fit*, which left a *palſy* of the right ſide, and an imbecility of the underſtanding, which terminated, about five months afterwards, in ſo violent a degree of *timid Inſanity* as urged her three times to make an attempt upon her own life. The delirium uſually began at day break, and continued till evening, when it abated.

ventricle (8), and likewiſe in the left (4); a concreted ſubſtance ſuppoſed to be a portion of the atrabilious humour: —— a large veſicle has been found adhering to the right ventricle, containing black blood (9): —— two pounds of a black, glandular, fleſh, has been obſerved in the left ventricle; the heart, like the gravid uterus, being diſtended, to adapt itſelf to the magnitude of its contents (10): —— a thin, red, and fetid fluid has been found in the left ventricle (11): —— black blood in the cavity of the heart (13): —— the ventricles,

abated. Between two and three years afterward, ſhe died of a pleuriſy.——*Obſ.* 2. p. 221.——See the ſame caſe, at large, and the appearances on diſſection more fully, and perfectly, related, in the *Section on the Apoplexy*, p. 111. *Obſ.* 40.

(6.) In the diſſection of a young man, who was *melancholy*, and *epileptic*.——*Obſ.* 3. p. 222.

(7.) In a man of thirty years of age, who was ſeized, in the ſpring, with *melancholy*; became inactive, dejected, was continually ſighing, and wiſhed for nothing but death. In the beginning of the diſorder, his head was unuſually inclined to the left ſide; and he had a little before been troubled with the nightmare, and with terrors in the night. He died convulſed in the beginning of July following.——*Obſ.* 31. p. 232.

tricles, inſtead of blood, full of a vitreous *pituita* (12): ——both the ventricles full of thick blood, intenſely black like ink;—an abſceſs, of the ſize of an egg, near the left auricle (13):——nothing but black bile in the ventricles of the heart, in the ſpleen, and in the whole vaſcular ſyſtem (14): —

—— A large ANEURISM of the *Aorta* (15).

ON opening the PERICARDIUM, it has been obſerved to contain *ſerum* (13); —— plenty of citron coloured water (16): —— its moiſture, on the other hand, has been found dried up (3); ——and conſumed (2): ——and the pericardium every where adhering to the heart (17).

THE

(8.) This was obſerved in a man, of forty years of age, of a *melancholy habit*, who had been exceedingly tormented with the *hypochondriacal diſorder* for ſome years, and had eſpecially complained of a pain in the left hypochondre.——*Obſ.* 19. p. 227. and *Obſ.* 25. p. 230.——See the caſe at length, Lib. 2. Sect. v. *Obſ.* 23. p. 660.

(9.) In a ſilent *melancholy man*, who ſhunned ſociety, and died of an inflammation of the liver.——*Obſ.* 9. p. 226.

(10.) In a gentleman who became very *melancholy* before his death.——*Obſ.* 13. p. 226.

THE SPLEEN has been ſo *large* (8), —— as to weigh four pounds (18); — and ſo *ſmall* (19) (20) (40), as ſcarcely to weigh an ounce (21); and it has likewiſe been *wanting* (22): ——the colour of its ſurface has been either wholly livid (8) (21), or of the colour of lead; or it has only been partially livid (7), or black (23):——it has been hard (18); ſcirrhous (24) (25); with an unnatural

(11.) In a man, who had been troubled for three years with *hypochondriacal melancholy*.——*Obſ.* 14. p. 226.——Alſo Book 2. Sect. 10. *Obſ.* 5. p. 864.

(12.) In a youth, who had been long afflicted with *melancholy*.——*Obſ.* 10. p. 226.

(13.) In a boy of three years of age, who had paſſed his ſhort life in much pain, diſtreſs, and groaning; and at length died ſuddenly.——*Obſ.* 6. p. 223. and *Obſ.* 11. p. 226.

(14.) In a gentleman, who had long been troubled with an *hypochondriacal affection*, from a ſuppoſed diſeaſe of the ſpleen; and who, though he had the ſingular firmneſs of mind, to diſguiſe his *melancholy*, and to be quite lively, and jocoſe, among his companions, was obliged to give it vent in private, and among his intimate friends.——*Obſ.* 7. § 2. p. 223.

(15.) In a man, of an atrabilious temperament, who had been much diſtreſſed in mind, and had experienced a variety of ſymptoms of *hypochondriacal melancholy*.——*Obſ.* 38. p. 138.

natural ſcirrhous appendage of about the ſize of a pigeon's egg (25); and it has, on the other hand, been uncommonly ſoft, tender, and flabby (8): ——the internal ſubſtance, or *parenchyma*, has, on taking off its membranous integument, been in ſo diſſolved, and fluid, a ſtate, as to run out, under the appearance of a thick, black, putrid jelly (26); and has ſometimes been thought to be nothing but black bile (14): ——on its convex ſurface

(16.) In one who had been *melancholy*, had been variouſly tempted, had ineffectually ſtabbed himſelf, was afterward ſeized with violent vomiting, and expired.——*Obſ.* 8. p. 224.

(17.) In a woman, who had paſſed the laſt years of her life in a ſtate of the moſt *diſtreſsful melancholy*.——*Obſ.* 15. p. 226. —*Obſ.* 6. p. 880.

(18.) In a man, who had long been *hypochondriacal*.—— *Obſ.* 23. p. 229,———See a ſimilar caſe of a man who died of the *morbus niger*, and whoſe ſpleen, which was ſoft, weighed four pounds, &c ———BARTHOLINI *Hiſt. Anat. Rar.* Cent. 1. Hiſt. 80. p. 115.

(19. In the Emperor Ferdinand III. who had a variety of hypochondriacal ſymptoms; and ſeems to have died of what is termed by HIPPOCRATES the *morbus niger*.——*Obſ.* 34. p. 236.———See the caſe related at length, *Lib*, 3. *Sect.* 8. *Obſ.* 47. Tom. 2. p. 111.———See a caſe of the *morbus niger*, with obſervations upon it, in SIMSONI *de Re Medica Diſſertat. quatuor*. p. 149,

face have been varicous veins, likewiſe diſtended with black blood; (23) as have been alſo the veins of the neighbouring parts (8). ——It is, however, very commonly found free from diſeaſe (27).

THE LIVER has been found both unuſually *large* (21) (25), and unuſually *ſmall* (28): ——it has been either florid (24) (25), livid (7), black in various degrees (28) (29), or of a pale lead-colour (21): ——it has been either wholly, or in part ſcirrhous (19) (28), œdematous (29), and full of fiſſures (29); and its convex part has been covered with hydatids (21).

THE

(20.) In a family, ſubject to *hypochondriacal melancholy*, ſeveral of whom died ſuddenly; but, on diſſection, no cauſe could be diſcovered for their ſudden death, unleſs it might be attributed to the ſmallneſs of their ſpleens.——*Obſ.* 28. § 2. p. 231.

(21.) In a gentleman of an atrabilious temperament, who had been troubled from his youth with *hypochondriacal melancholy*, with which, when he died, he had ſtruggled for more than twenty years; and had been perpetually diſtreſſed with fear, dejection, and puſillanimity: though in his youth he had been of

THE OMENTUM has, on ſeveral occaſions, been found diſeaſed. ——It has been remarkably thick, large, and ſcirrhous (30): ——it has not only been ſcirrhous, but ſo large as to occupy the whole epigaſtric region, has been four fingers breadth in thickneſs, and, in colour, has reſembled the ſpleen (31): ——it has been loaded with three large excreſcences, ſuppoſed by the patient, when alive, to have been the heads of three living frogs, which ſhe imagined ſhe had ſwallowed, but which were found upon examination

a hot conſtitution, as he advanced in life he became of a cold one, as appeared from the ſerous ſtate of his blood, from the pale, and lead coloured complexion of his liver, the ſize of his gall-bladder, and the watery ſtate of the gall, with which it was diſtended. He had been guilty of great exceſſes in diet, had indulged in hard drinking, to relieve the dejection of his ſpirits: for more than a year he ſlept very little; and was obliged to court ſleep by reading in the night till he became drowſy: for ſome weeks before his death he was troubled with a violent defluxion from his head, which, falling upon his breaſt, produced ſuch a difficulty of breathing, that he was frequently in danger of ſuffocation. As his face, and blood taken from his arm, when he was alive, were of a livid, and lead, colour; ſo were his viſcera after death.——*Obſ.* 28. p. 230.

(22.) In a married woman, whoſe ſkin was tinged of a black colour;

amination to be idurated, and ſcirrhous, glands of the omentum; and a ſchirrous tumour of the omentum itſelf, which weighed two pounds and a half (32). —— Its colour has been ſometimes red (30), ſometimes livid, and ſometimes black (42) —— The veſſels have been turgid with black blood (42), —— it has adhered in ſeveral places to the peritoneum (42): —— and has been found tender (42), lacerated (42), deſtitute of fat (42), and exceedingly fetid, and putrid (28) (42).

THE MESENTERY has been ſcirrhous, and, as it were, ſtony, and its veſſels turgid with

colour; who had a perpetual *melancholy*, without fever; and whoſe diſorder had been attributed by her phyſicians to an obſtinate obſtruction of the SPLEEN, and menſentery.——*Obſ.* 22. p. 229.——See the caſe at large, Lib. III. Sect. XVIII. *Obſ.* 30. Tom. 2. p. 332.

(23.) In a gentleman, who had been affected with ſymptoms of melancholy.——*Obſ.* 27. p. 230.

(24.) In a gentleman, who had been frequently troubled with hypochondriacal, and nephritic ſymptoms.——*Obſ.* 24. p. 229.

with black ſerous blood (33): ——it has been every where replete with a black fluid (25): ——a collection of fetid, purulent, matter, has been met with between its two coats, which has occupied the greateſt part of the lower belly, and has even contaminated the liver (34): ——it has been every where overſpread with black varices (28): ——it has appeared as if ſphacelated (35): ——and its glands have been enlarged, indurated, and ſcirrhous (35).

THE MESENTERIC VESSELS have been turgid with black foul blood (25); ——with black

(25.) In a lady, who had been uſually troubled with hypochondriacal complaints, and a tenſion in the region of the ſpleen, every year about the time of the ſolſtices, and equinoxes.——*Obſ.* 26. p. 230.

(26.) In a man who was *melancholy*, and hanged himſelf.—*Obſ.* 29. p. 231.

(27.) *Obſ.* 21. § 1, 2, 3. p. 227.

(28.) In a prince, of a very diſeaſed habit of body, of a *melancholy diſpoſition*, and of remarkable taciturnity.——*Obſ.* 46. p. 242.

black blood, and the veins varicous (36) : — the GASTRO-EPIPLOIC VESSELS (8), and the confines of the vena portarum, have been in like manner affected : — The parts to which the COELIAC, and *meſenteric*, *arteries*, and *veins*, are diſtributed, have been in an inflammatory ſtate (37) : — and the VAS BREVE has been obſtructed (19).

THE INTESTINES have been inflated with wind (7) (33), — have been livid, black, and ſphacelated (38) : — in ſome parts full of

(29.) A nobleman, having experienced great loſſes, and being overcome with grief and diſtreſs, became *melancholy*, was perpetually ſorrowful, penſive, and ſighing, contracted an exceſſive parſimony, and a dread of ſpirits, and apparitions. He continued in this unhappy ſtate for about twenty years ; declined, and died.——*Obſ.* 32. p. 234.

(30.) In a gentleman of an aduſt, and *melancholy temperament*, who had been troubled with obſtinate vomiting, and frequent eructations.——*Obſ.* 17. p. 227.

(31.) In a man of a very *melancholy temperament*.——*Obſ.* 39. p. 239.

(32.) In a woman, who, after drinking water from the ſpout of a running ſpring, ſaw, after ſhe had finiſhed drinking, the

of concreted, feculent, and very black blood, like pitch, exactly reſembling what the patient had vomited when alive (19) (38) :—— their veins have been replete with thick, black blood, and have appeared diſtended, and varicous (36) (38) :——and ſometimes they have been almoſt deſtitute of moiſture (25).

THE STOMACH has likewiſe been much diſtended with wind (33) : —— it has been in ſome parts livid (30) :——its coats have been either

the foot of a frog ſticking in the pipe, was perſuaded that ſhe had ſwallowed ſome living frogs, could perceive them move about, and hear them croak within her.——*Obſ.* 40. p. 240.——A ſimilar caſe is related, a few pages before, in which an imaginary frog was found, on diſſection, to be a ſchirrous tumour, of the ſize of a hen's egg, near the *pylorus*.——*Obſ.* 35. p. 236.

(33.) In a caſe of *hypochondriacal Inſanity*, in a gentleman, minutely related, of ſeveral years ſtanding, accompanied with heat, diſtenſion, lancinating pains in the hypochondres, anxiety about his diſorder, and at length a ſilent melancholy, from a ſcirrhous of the *pylorus* and omentum.——*Obſ.* 33. p. 234.

(34.) In a gentleman, who had been exceedingly intemperate, was ſeized with a nauſea, vomiting, *dejection*, and other *hypochondriacal* ſymptoms ; with a pain, and tumour, in the lower belly, which gradually increaſed ; and died quite emaciated in about ſeven months.——*Obſ.* 37. p. 237.

either wholly, or in part, exceedingly thin, like paper (19) (30) (33) :—— it has contained a large quantity of dark coloured (19), or of black matter (28) ; in one caſe as black as ink (33), and, as was evident from its fetid ſmell, quite in a putrid ſtate (33).——The ſtomach, as well as the inteſtines, has ſometimes been found almoſt deſtitute of moiſture (25).

THE PYLORUS has been diſcovered to have

(35.) In *hypochondriacs*.——*Obſ.* 16. p. 226.

(36.) In *flatulent melancholy*.——*Obſ.* 42. p. 241.——See *Obſ.* 44, 45. p. 242.

(37.) According to the obſervations of SPIGELIUS ; who ſuppoſes the cauſe of *melancholy* to be an inflammation ſeated in thoſe parts, from the heat and pulſation frequently felt there by the patient, and the inflammatory ſtate in which he often obſerved them on diſſection.——*Obſ.* 31. p. 231.

(38.) In a caſe of the *morbus niger*.——*Obſ.* 43. p. 241.——See another of a ſomewhat ſimilar nature, in *Obſ.* 47. p. 242.

(39.) In an *hypochondriacal* nobleman, who always vomited up

have been inflamed (35);——ſcirrhous (39); and, in one caſe, not only ſcirrhous, but its paſſage ſo cloſely contracted, as ſcarcely to admit a quill to be thruſt through it (33).

THE PANCREAS has been large, black, and hard (19) (28).——The KIDNEYS have been very large; as big as a child's head (28); full of ſtones; gangrenous; and otherwiſe affected.——The CAPSULÆ ATRABILIARIÆ have been large, and of an unuſual ſtructure (40).——A large abſceſs has been obſerved near the PSOAS MUSCLE (28).——The LUNGS, and *neighbouring parts*, have been variouſly diſeaſed (7) (8) (21) (28) (29).

II. *According*

up his food, and with it a certain black matter.——*Obſ.* 18. p. 227.

(40.) In a man who had been *melancholy*.—*Obſ.* 36. p. 237.

(41.) In a certain ſubject, the blood of which is ſaid to have been exſiccated by the *melancholy humour*.—*Obſ.* 7. p. 223. § 1.

(42.) In the body of a man, who had been *hypochondriacal* and ſcorbutic.——*Obſ.* 20. p. 227.

II. *According to* MORGAGNI.*

MORGAGNI does not always mention whether the perſons, on whoſe bodies his diſſections were made, had died *maniacal*, or *melancholy*. And were not this omiſſion generally accompanied, as might be expected, with an imperfect hiſtory of the diſeaſe in other reſpects, it would not, perhaps, in itſelf, have been of much importance; ſince an exact deſcription of the ſymptoms, as they occurred, would have conveyed much better information, than a diſtinction ſo exceedingly imperfect, inaccurate, and uncertain, as that of *mania* and *melancholy*; as has already been abundantly ſhown; and as MORGAGNI himſelf was well aware: for he very juſtly

* *De Sedibus & Cauſis Morborum. Operum* Tom. 3 & 4.—EPIST. I. *Spectat ad Dolorem Capitis.*——EPIST. viii. *De Mania Melancholia, & Hydrophobia.*——EPIST. lix. *De Morbis a Veneno inductis.*——EPIST. lxi. *Partinet ad Deliria quæ ſine febre contingunt.*

juſtly obſerves, from the ingenious Dr. WILLIS, that — "*Melancholiæ — Mania* in "tantum affinis eſt, ut hi affectus ſæpe vices "commutent, & alteruter in alterum tranſe-"at:" — "Mania *has ſo near a relation to* "Melancholy, *that theſe diſorders often mutual-*"*ly change ſides, and paſs one into the other*" — adding — "quin ſæpius dubitantes me-"dicos videas, hinc taciturnitate & metu, "hinc loquacitate & audacia, in eodem ægro "ſubinde alternatis, *melancholicum, an mania-*"*cum pronuncient.* Quo facilius tuli cum *ſtul-*"*torum* capita diſſecarem, atque *utro labora-*"*ſſent delirio*, quærerem, reſponſiones perſæpe "ambiguas, nonnunquam inter ſe pugnan-"tes, veras tamen fortaſſe in longo delirii "curſu:" ‡ — *ſo that you may often ſee phy-*"*ſicians in doubt, while on the one hand they* "*obſerve taciturnity and fear, and on the other* "*loquacity and boldneſs, not unfrequently alter-*"*nating in the ſame patient*, whether they "ſhould pronounce him melancholy or ma-"niacal.

‡ EPIST. viii. 1. Tom. 3. p. 47.

" niacal. *And, for this reaſon, I have been the*
" *leſs diſappointed, when, on aſking with* what
" ſort of delirium *the* inſane *perſons, whoſe*
" *heads I was about to diſſect, had been affected,*
" *I have often received very ambiguous, and*
" *ſometimes quite oppoſite anſwers ; which yet,*
" *I was ſenſible, might all be true, in conſequence*
" *of the changes which might happen in the courſe*
" *of a long continued delirium.*

THE above paſſage, at the ſame time that it affords the beſt, and only proper apology, for his imperfect hiſtories of the diſorder, will ſerve, in conjunction with ſeveral others which occur in the courſe of the epiſtles, to ſhow the very lax ſenſe in which he uſes the terms *ſtultus* & *fatuus*, which ſo frequently occur in the conciſe memorandums of the caſes we are now conſidering ; which he appears ſometimes to confound as ſynonymous terms ; while for the moſt part he ſeems to uſe the former as applicable, in general, like the *fou* & *folie*, of the French, to the *inſane* of every denomination ; and the latter to expreſs

preſs idiotiſm: and in one place, to reverſe theſe meanings, and to tranſpoſe each into the place of the other.——In the diſſections which he deſcribes, we meet with the following appearances: ——

THE DURA MATER firmly adhering to the *os frontis* for a conſiderable ſpace on the left ſide, and in that part ſo nearly oſſified, as to be in a kind of intermediate ſtate between that of a bone and a ligament: (1) ——the *veſſels of both the meninges* diſtended with black fluid blood: (2) ——a polypous concretion extending through the whole length of the *longitudinal*

(1) In a beggar, who had always been inſane [*fatuus*]; and at length became ſo ſilly [*ſtultus*] as to throw away the bread which he had acquired by begging. He had alſo been ſubject to a head-ach.——EPIST. I. n. 10.

(2) In a robuſt young *maniac*, who, in about an hour after having had a pound of blood taken from the temporal artery, was found dead, with his tongue hanging out of his mouth. This ſudden death was diſcovered to have been occaſioned by the cruelty of his inhuman keeper; who, becauſe he had removed the bandage from his head, and renewed the bleeding of the artery, though without any dangerous hæmorrhage, as it had been immediately replaced, ſtruck him violently with his fiſt over the belly, and forehead, and then left him bound ſo ſtrait round the neck, that he was preſently ſtrangled.——EPIST. viii. n. 4.

gitudinal ſinus : (3) —the *dura mater* thicker than uſual : (4) —water between the PIA MATER and the brain, (5) (6)—ſometimes in conſiderable quantity ; (7)—and ſometimes but juſt enough to make the *pia mater* ſlip with eaſe, on the ſlighteſt attempt to ſeperate it from between the convolutions of the brain : (8) (9)—ſometimes air bubbles were obſerved in the water, and were likewiſe ſeen in ſuch great plenty in ſome of the veſſels, as entirely to fill them. (7)

OUT of the THIRTEEN *diſſections* deſcribed by MORGAGNI, ONE of which was made by

(3) This was obſerved in a young woman, of about 20 years of age, who, on being refuſed admiſſion into a nunnery, immediately became inſane, rambled in her talk, and as the diſorder increaſed, frequently refuſed to take food : ſhe continued in this ſtate for ſome months, and, beſides being ſeveral times indiſpoſed by paroxyſms of an irregular fever, was at length attacked by a violent Inſanity without fever ; *the delirium*, as MORGAGNI obſerves, *which was at firſt melancholy, becoming maniacal* ; ſo that ſhe attempted to injure thoſe about her ; and, her ſtrength gradually declining, ſhe expired.———It was obſerved, in this diſſection, that along the outſide of the longitudinal ſinus, on the dura mater, were certain ſmall white ſubſtances, ſome round, ſome oblong, ſome of an irregular figure, but all ſoft ; which VALSALVA ſuppoſed to be concretions of the coagulable lymph, becauſe

by VALSALVA (3) ELEVEN by himſelf, (1) (2) (5) (6) (7) (8) (9) (10) (11) (12) (13) and ONE by one of his pupils, (4) —— in *that* made by VALSALVA it is mentioned ——that *the brain was moiſt*, which ſeems to imply that it was *ſoft*; or, at leaſt, as no ſuch thing is noticed, we may, I think, ſafely conclude that it was by no means remarkably hard: (3)——and in *one* of thoſe performed by MORGAGNI himſelf, the brain and cerebellum were both found uncommonly *ſoft*; but it ſhould be noticed that in this caſe the

becauſe he had before obſerved ſuch concretions, in perſons who had died of wounds of the head, ariſing from the ſtagnation of purulent matter upon the dura mater: but MORGAGNI reckons theſe white tubercles to be natural.———EPIST. viii. n. 2.

(4) In a man, diſſected by one of his pupils, who was *delirious without fever*, and through the inattention of his keepers, who had carefully watched him for three days, leaped out of his chamber window in the night-time, fell upon his head, and died.———EPIST. viii. n. 15.

(5) In a butcher who had been *inſane* [*ſtultus*] for fourteen months, in conſequence, as was ſuppoſed, of a love-potion; and, being incapable of taking proper care of himſelf, was ſtarved to death by the ſeverity of the weather.———EPIST. viii. n. 6.

the patient had been free from Infanity for ſome little time before his death, and was, apparently, killed by taking a concluding doſe of black hellebore, before his intended diſmiſſion, as cured, from confinement. (10) ——In all the other ELEVEN diſſections (1) (2)–(4) (5) (6) (7) (8) (9)–(11) (12) (13) the BRAIN was found more or leſs HARD; generally very much ſo; eſpecially in its *medullary ſubſtance*: and the CEREBELLUM univerſally SOFT; *except in four caſes*; in two of which it was found univerſally (9) (10) firmer than ordinary, and in two very partially

(6) In a man who had long been *inſane* [*ſtultus*,] and died of a lingering fever.——EPIST. viii. n. 11.

(7) In a woman, who had been delivered of a child the year before, without any relief to her Infanity. She uſually ran about the ſtreets; but hurt nobody. Her diſorder commenced about nine years before, on her lover having been killed on the day preceeding that which had been fixed upon for their marriage. —She died of an inflammation of the breaſt.—— EPIST. viii. n. 9.

(8) In a man who had been *inſane* [*ſtultus*]——EPIST. viii. n. 12.

partially ſo, (6) (13) that is, only in ſome portions of the medullary ſubſtance.——It may alſo be worthy of notice, that in one caſe, where the cortical ſubſtance of the brain was pretty firm, and the medullary ſubſtance every where exceedingly hard, the latter was found not ſo white as uſual; which was ſuppoſed to be owing to its blood veſſels being uncommonly full, as the diſcolouration decreaſed in proportion as the diſſection receeded from the cortical ſubſtance. (7) In this ſubject, alſo, the nerves, within the ſkull, were obſerved, on being cut, to be firmer, and leſs moiſt than common. (7) The

(9) In a woman who had been *inſane* [*ſtulta*,] and died at about a middle age.——EPIST. lxi. n. 2.

(10) To a man, about fifty years of age, of a good habit of body, who had been cured in an infirmary of a melancholy delirium, was given a doſe of the extract of *black hellebore* before his intended diſmiſſion: it purged him ſmartly, and all was ſuppoſed to be well: but in the evening, about ſeven or eight hours after he had taken it, he was ſeized with vomiting, and pains in his belly, which, by taking ſome warm broth, ſeemed to be appeaſed in about an hour: in about four hours after they returned again, and again ſeemed to be ſo much abated in leſs than an hour, that he went to bed. With all his ſtraining, and vomiting, he had brought up nothing but about two or three table ſpoonfuls of blackiſh

The hardneſs, in another caſe, was found to extend to the beginning of the ſpinal marrow (10).

IN the CORPUS CALLOSUM, inſtead of thoſe two protuberant lines, or chords, or as LANCISIUS calls them, *longitudinal nerves*, which uſually run along its upper and poſterior ſurface, in one ſubject were obſerved, in their place, two rather deeply indented furrows (5):——in another, the protuberance conſiſted, for the moſt part, of a ſingle line, which, however, in one place divided, and became a double one (12):——in a third, it was one ſimple line (13):——in a fourth, it

blackiſh green matter. On going to bed, he ſeemed to reſt, as they who lay in the beds near him heard not the ſmalleſt groaning, or ſign of pain. In about an hour ſome kind of noiſe was heard to come from him by the attendants; they ran to him, and found him dead.——On DISSECTION, the *ſtomach*, and *œſophagus*, were obſerved to be pretty generally, but ſlightly, inflamed; the *inteſtines* were inflamed in many parts, but leſs ſo than the ſtomach; and the large inteſtines were leſs inflamed than the ſmall ones, excepting the rectum, ſome portions of which

it is ſaid to have been in its perfectly natural ſtate (10) :——and in the other diſſections it is not mentioned at all.

THE PINEAL GLAND was, in ſome ſubjects, enlarged (9) (10) (13), more globular than uſual (10), of a ſoft texture (10), and of a mucous appearance (9) (10) :——in one, quite flabby and withered (8) :—— in another, fixed to its place by rather long medullary roots (4) :——in ſome it was of a yellowiſh brown colour (8) (13) :——and it had ſometimes, adhering to its anterior part, a quantity of a pale yellow, granulated, matter

which were as conſpicuouſly inflamed as the ſtomach. But there was no where any violent inflammation. The *ſpleen* was ſomething larger than ordinary, of a roſy colour on the part adjoining to the ſtomach, and of ſo looſe a texture, that, on diſſecting it, the internal contents were found nearly approaching to a fluid ſtate. The *gall*, as ſeen through the coats of the gall-bladder, appeared of a pale green colour.——A ſmall quantity of bloody *ſerum* flowed out on taking off the *ſkull* ; and a *little blood* was found in the *ſinuſſes* of the *dura mater*, and in the *larger veſſels* of the *pia mater* ; and the *brain*, though the diſſection was performed earlier than the ſixth day after death, and it was taken out with the greateſt care, was ſo *exceedingly ſoft*, that when placed

ter (4) (5); reſembling, in appearance, a congeries of ſmall ſtones (7); which, when rubbed between the fingers, was found, in one caſe, to contain ſomething like grains of ſand (1); in another the granulations were moderately hard; and in a third, they were ſo far from approaching to the nature of ſand, that they had ſcarcely any perceptible hardneſs (7).

WATER (1)(2)(4)(6)(7)(9*), or SERUM (3), was frequently found in the VENTRICLES (1)(2)(4)(6)(9*), eſpecially in the lateral ones (1)(2)(3)(4)(6), and between the two lamellæ which form the ſeptum that divides them (6), ſometimes in a large

placed upon a table, it had not ſufficient firmneſs excepting a ſmall potion juſt at the entrance into the third ventricle, to retain its proper form. The ſame *laxity* was obſerved in the *cerebellum*; *medulla oblongata*; and in the *pineal gland*, which was ſomewhat larger and rounder than uſual.——EPIST. lix. n. 15.

(11) In a woman who had been *inſane* [*ſtulta*], of about forty

large (2) (4), and ſometimes only in a ſmall (1) (3) (6) (9*) quantity: which was either limpid (1), or turbid (2); reſembling ſerum (1) (3), or of a reddiſh yellow (4). ——But ſometimes the ventricles were quite free from water, and their veſſels red (7). ——Water, of various appearances was alſo obſerved in other parts of the brain, and its connections.

THE PLEXUS CHOROIDES was ſometimes red (2) (4); and ſometimes diſcoloured (1) (9):——in one caſe it adhered to the mouth of the opening which leads into the *third ventricle*, as it paſſed over it, and ſtopped it up (9):——it was in two inſtances (1) (2) beſet with hydatids; in one of which, one hydatid was as big as a moderate ſized grape, with veſſels running along its coats as large

forty years of age, and who had died of a quinſy.——EPIST. viii. n. 8.

(12) In a man, of about forty years of age, who, after being made a galley-ſlave, became at firſt *hypochondriacal*; and afterwards

large as thoſe of the adjoining membrane of the plexus ;——and in one inſtance it exhibited four large, yellow, almoſt ſpherical, and indurated, glands (3).

THE VESSELS *of the* BRAIN were in ſome caſes diſtended with black (4) (8) (10), and fluid blood (2), both in its *ſubſtance*, on the ſides of the *ſeptum lucidum*, and all round the reſt of the ſides of the great *lateral ventricles* (2) :—— and in others with florid blood (7).———The *arteries* were in one ſubject obſerved to have firmer coats than uſual (4).

IN one caſe, the CAROTID ARTERIES, and

afterwards *inſane* [*ſtultus*], but was chearfully ſo, and continued in that ſtate about ten years, when he grew cachectic, his whole body œdematous, had a difficulty of breathing, and died in the hoſpital.———EPIST. lxi. n. 5.

(13) In a woman, upwards of thirty years of age, who was born an idiot [*ſtulta*], and at laſt died in conſequence of refuſing all nouriſhment.———EPIST. lxi. n. 7.

(9*) In this caſe a good deal of water had flowed from the cavity of the vertebræ, on ſeparating the head from the body, for diſſection.———EPIST. lxi. n. 2.

and the INTERNAL JUGULAR VEINS, in the neck, were larger than ordinary (6): —— in another, the PERICARDIUM every where adhered to the heart (5): —— in another the ſpleen was obſtructed (1): —— and in him who died by taking *hellebore*, after his Inſanity had left him, it was larger than uſual, of a roſy colour on its flat part, which lies contiguous to the ſtomach; and the whole was of ſo looſe a texture, that, when cut into, its contents appeared to be in a ſtate nearly approaching to that of a fluid (10).

FROM a view of the above enumeration of appearances on diſſection, as exhibited by MORGAGNI, and I am not conſcious that any thing material has been omitted, it may be obſerved, that he confines his attention almoſt entirely to the contents of the head, and takes very little notice of the abdominal viſcera, ſome or other of which have been ſo univerſally eſteemed to be the ſeat, and fountain of the *atrabilis*, and *melancholy humour*, the ſuppoſed cauſes of hypochondriacal, and of moſt

moſt other ſorts of Inſanity. Of theſe he has taken even leſs notice than, in the diſſections collected by BONETUS, of patients who died melancholy, is taken of the ſtate of the brain. It is true, it was not always in his power to examine the contents of the abdomen; and he laments the misfortune; which he could no more avoid, or remedy, than the defective account which his imperfect information uſually obliges him to give of the diſorder; or than BONETUS could help the looſe and ſlovenly deſcriptions, and imperfect memorandums, which he often met with in the writers from whom he collected.——Theſe omiſſions, however, muſt be conſidered as capital defects in both.

IF the appearances on diſſection, obſerved in the contents of the ſkull of ſuch as had been inſane, of which I have juſt given a ſynoptic view from theſe two eminent writers, be compared with thoſe which have been met with after other diſeaſes which principally affect, or at leaſt derive their origin from the head,

head, but have not been accompanied with the ſmalleſt ſymptom of Inſanity ; it will be perceived that ſcarcely a ſingle appearance has occurred in the one caſe, which has not likewiſe been found in the other : as may be ſeen by conſulting, in BONETUS, the ſections which treat——*on the* HEADACH (1)——*on the* APOPLEXY (2),——*on the various kinds of* SLEEPY AFFECTIONS (3),——*on the* CATALEPSY (4),——*on terrying* DREAMS, *and the* NIGHT-MARE (5),——*on preternatural* WATCHINGS (6),——*on the* PHRENITIS *and* PARAPHRENITIS (7),——*on the depravation and abolition, of the* IMAGINATION, REASON, *and*

(1) Lib. 1. Sect. 1. Tom. 1. p. 1.

(2) Lib. 1. Sect. 2. Tom. 1. p. 77.

(3) Lib. 1. Sect. 3. Tom. 1. p. 148.

(4) Lib. 1. Sect. 4. Tom. 1. p. 176.

(5) Lib. 1. Sect. 5. Tom. 1. p. 180.

(6) Lib. 1. Sect. 6. Tom. 1. p. 183.

(7) Lib. 1. Sect. 7. Tom. 1. p. 187.

and MEMORY (8),——*on the* VERTIGO (9),——*on the* EPILEPSY (10).——*on* CONVULSIONS (11),——*on* STUPIDITY, TORPOR, TREMBLING, &c. (12),——*on the* PALSY (13), ——and ſome others:——by conſulting the *correſponding epiſtles of* MORGAGNI: ‖——and by comparing the whole with the appearances, juſt exhibited from them both, on the diſſection of inſane ſubjects.

No one was more ſenſible of the uncertainty

(8) Lib. i. Sect. 10. Tom. i. p. 253.

(9) Lib. i. Sect. 11. Tom. i. p. 262.

(10) Lib. i. Sect. 12. Tom. i. p. 271.

(11) Lib. i. Sect. 13. Tom. i. p. 305.

(12) Lib. i. Sect. 14. Tom. i. p. 344.

(13) Lib. i. Sect. 15. Tom. i. p. 354.

‖ *De Sedibus & Cauſis Morbor.* EPIST. i. ii. iii. iv. v. vi. vii. viii. ix. x. xi. &c. *Operum* Tom. 3. p. 1—84.

tainty arising from this similarity of appearances in the brain, and its appendages, after so many different disorders, than MORGAGNI himself; who, though much inclined to believe that the uncommon hardness of the brain, which so frequently occurred to him, was more than accidental, and had no inconsiderable share in the production of Insanity, had yet too much accuracy, and candour, not to perceive, and to acknowledge, that this disorder had sometimes existed where no such hardness could be discovered; and that there were many examples of this unusual hardness of the brain without any preceeding Insanity.* But that his opinion relative to the comparative importance of the several appearances on dissection, as they may seem to have some agency in the production of Insanity, may be better understood, I shall here give a concise abridgment of his observations on his own, and some other dissections, of insane subjects; in which it will be perceived that

* EPIST. viii. n. 18.

that the illuſtrious writer, on ſome occaſions, ſtill uſes the terms *fatuus*, *fatuitas*, *ſtultus*, and, *ſtultitia*, with a degree of latitude, but that he ſeems commonly to employ the latter as generally expreſſive of INSANITY, and the former to ſignify a ſtate of IDIOTISM.

(1) HE remarks that if his own diſſections be compared with thoſe of others, it will be found that, of the appearances which they have deſcribed, ſome he had *never* ſeen, others *rarely*, others *often*, and ſome *always*.

THAT he had NEVER ſeen the *pia mater* forget to inſinuate itſelf between the convolutions of the brain;——that he had *never* ſeen, nor indeed did he ever expect to ſee, *worms* in the brain;——and that he had *never* ſeen an induration of the *dura mater*, though

(1) EPIST. viii. n. 13, & 14.

though BAGLIVI † asserts that *in two maniacs whom he had dissected at Naples, he had found the dura mater as hard as a board, and almost as dry*; though M. LITTRE, ‡ and M. GEOFFROY, § had each observed both the membranes of the brain, the former of these gentlemen in one case, harder and more compact, and the latter, in another, thicker and firmer, than was natural; not to mention that GEOFFROY found the falx at the same time, almost covered with bony *laminæ*: —— though ALEXANDER CAMERARIUS, ¶ and the celebrated VAN SWEITEN, || had also noticed this firmness, and unusual thickness of one,

† *Specim. Libri primi de Fibra Motrice*, cap. 5. Coroll. 10. *Operum* p. 287.

‡ *Memoires de l'Acad. Royale de Sciences.* Ann. 1705. p. 40—47.

§ *Ibid.* Ann. 1706. p. 662.

¶ *Disput. de Apospasm. Piæ Matris.*

|| *Comment.* § 1121.

one, or both, meninges: the origin of which, he tells us, he ſhould be inclined to attribute to the violence, or long continuance of the delirium, did not he know that it had been obſerved by WEPFER* after *melancholy deliriums*;——by KING† after *idiotiſm* [fatuitas];——by OTHERS,‡——and by himſelf,§——in the diſſection of ſuch as had been of a *ſound mind.*——That, however, he found it leſs unfrequent in *maniacs* than thoſe *large glands* obſerved by VALSALVA¶ in the ventricles of the brain; though ſomething ſimilar had been remarked in the ventricles of ſome who had

* *Auct. Hiſt. Apoplect.* Hiſt. 15. p. 375.

† *Act. Lipſiens.* Ann. 1688. Menſ. Maii. p. 234. from the *Philoſophical Tranſactions* for December 1686. Numb. 185. p. 228.

‡ *Sepulchret.* Lib. 1. Sect. 1. Obſ. 1. Tom. 1. p. 1.

§ EPIST. v. n. 6. & EPIST. xlix. n. 16.

¶ EPIST. viii. n. 2.

had died *melancholy*.‖——Nor did he ever chance to diſcover thoſe cavities replete with water, or any yellow corpuſcle, in the medullary ſubſtance of the brain, obſerved by SANTORINUS* in two old men, one of whom was an idiot [*fatuus*], and the other rather inſane [*levitur ſtultus*].——Much leſs did he meet with the brain of a ſmaller ſize than it ſhould be, as was obſerved in ſeveral idiots [*fatui*] by WILLIS, † KERCKRINGIUS, ‡ and KING §.

THAT he had *rarely*, and indeed only once, ſeen, in the body of an inſane perſon [*ſtultus*],

‖ WEPFER. loco citato, & *Hiſtoir. de l'Acad. R. des Sciences* Ann. 1700. p. 49.

* *Obſ. Anatom.* c. 2. § 5.

† *Sepulchret.* Lib. 1. Sect. 10. Obſ. 3. 9. 10. Tom. 1. p. 256. 258.

‡ *Ibid.* Obſ. 5. p. 257.——KERCKRINGII *Obſ. Anat. Rar.* Obſ. 35. p. 76.

§ *Act. Lipſ.* loco citato.

[*ſtultus*], thoſe deep furrows in the *corpus callo-ſum*,¶ ——*air bubbles* in the blood veſſels of the brain,——or the medullary ſubſtance rather of a *brown colour*,——*appearances* which were probably merely accidental: ſince LANCISIUS‖ had obſerved quite the reverſe of *the laſt* mentioned, having found the ſubſtance of the brain in an idiot [*fatuus*] whiter than ordinary.

BUT that he had OFTEN ſeen the *veſſels* of the brain *diſtended with blood*; —— *water* under the *membranes*, or in the *ventricles*;—— and

¶ See farther obſervations on the appearances of the *corpus calloſum*, in EPIST. lxi. n. 6.——SAUVAGES has a ſpecies of *amentia*, which he calls, after PLATERUS, *amentia a tumore*, and which he illuſtrates by the caſe of a ſoldier, who, in three years after receiving a violent blow on the head, became affected with this kind of Inſanity.——On opening his ſkull, a large, globular, *tumour*, of an intermediate texture between that of a ſcirrhus, and a fungus, of about the ſize of a ſmall onion, was found upon the *corpus calloſum*; and there was water in the ventricles.——*Noſolog. Method.* Claſs viii. Gen. xviii. Spec. 4. Tom. 3. part. 1. p. 376.——See SIMPSON *on vital and animal actions*. p. 222.

‖ *Diſſert. Var.* vii.

and probably might not unfrequently have met with a *large*, or *ſcirrhous*, *ſpleen*, if, beſides opening the heads of the *inſane*, he had always had leiſure to inſpect the other viſcera. ——That all theſe appearances were obſerved in one *maniac* by HOYERUS;* ——that VAN SWEITEN† found the veſſels of the brain diſtended with *pitchy*, *and exceedingly black blood*, in a woman who had been *melancholy*; ——that FABRICIUS‡ often obſerved in *maniacs* the *plexus choroides turgid and inflated*; ——that not only KING,¶ and OTHERS, have obſerved plenty of water in the brains of idiots [*fatui*]; but WEPFER§ in that of a woman who had been troubled with *melancholy*; and OTHERS referred to by VAN SWEITEN, in *maniacs*; ‖ ——and

* Act. N. C. Vol. 4. *Obſ.* 39.

† *Comment.* § 1010. 2. verſ. fin.

‡ *Ideæ Anat. Pract.* Sect. 4.

¶ Loco citato.

§ Loco citato.

‖ *Comment.* § 1124.

—and HOYERUS,* when mentioning that he had found *ſcirrhous ſpleens* in ſeveral who had died of intermittent fevers, obſerves that he generally learned upon enquiry, that *ſuch perſons had formerly been ſubject to violent melancholy deliriums.* —That he was not, however ignorant, that in three inſtances where the melancholy delirium had been ſo violent as to occaſion ſuicide, the *ſpleen* was neither hard, nor large, was in one of them even much leſs than uſual ;‡ and that HEISTER,† who diſſected two out of the three, found the *pancreas*, and the *bile*, and not the *ſpleen*, in a ſtate of diſeaſe. —That he had *very often*, to wit *four* times, met with a *diſeaſed pineal gland :* ||

AND

* *Act. Nat. Curioſ.* Vol. 5. Obſ. 68.

‡ *Ephem. Nat. Curioſ.* Cent. 7. Obſ. 60.

† *Earund.* Cent. 6. Obſ. 28.

|| Vide etiam EPIST. 1. n. 10.——See more relative to the diſeaſed ſtate of the *pineal gland*, in EPIST. lxi. n. 3.

AND *seven times*, that is ALWAYS, with a *hardneſs of the brain*. ¶

(2) HE farther obſerves that *ſtony concretions* are in no part of the brain ſo frequently met with, as in the *pineal gland*: and that he had more frequently ſeen them in thoſe who had been inſane [*ſtulti*], than in others: —— and that KING, § in an idiot [*fatuus*], and BERLINGERIUS GIPSEUS, ‡ in

¶ He met with ſeveral other caſes of Inſanity, or Idiotiſm, after this; which are inſerted in EPIST. viii. n. 15. lix. n. 15. lxi. n. 2. 5. 7. which with that of VALSALVA, EPIST. viii. n. 2. make in all thirteen; in eleven of which the brain was found more or leſs *hard*, at leaſt in the *medullary ſubſtance*.——See above p. 31. in the text.

SAUVAGES mentions an inſtance of what he calls, after BELLINI, *Melancholia attonita*, in which, on diſſection, he found every part of the body remarkably deſtitute of moiſture, the blood viſcid, and the brain exceedingly firm and compact.—— *Noſolog. Method.* Claſs viii. Gen. 19. Spec. 6. Tom. 3. Part. 1. p. 387.

(2) EPIST. viii. n. 16.——See alſo note ‖ in the preceeding page.

§ Loco ſupra citato.

‡ Apud CONTULUM *de Lapid. Podagr.* &c. c. 5.

in one who had become quite ſtupid through an extraordinary defect of memory, had found it entirely changed into ſtone. —That it was liable to other diſeaſes, which had, likewiſe, ſometimes been obſerved in the diſſection of ſuch as had been inſane [*ſtulti*]; —that LANCISIUS* had remarked it, in the idiot [*fatuus*] already mentioned, who was thirty-ſix years of age, ſo *ſmall* as ſcarcely to be equal in ſize to a *hemp ſeed*; —that himſelf § had ſeen it in one who had been inſane [*ſtultus*], quite *flabby* and *emaciated*; —and that it was found, on the contrary, to be more *ſolid* than uſual, and perfectly *red*, in the caſe of a *maniac* related by ZWINGERUS. ‖

(3) THE

* Loco ſupra citato.

§ EPIST. viii. n. 12.

‖ *Sepulchret.* Sect. 9. Addit. Obſ. 1. Tom. 1. p. 247.

(3) THAT though in the *ſepulchretum* there is only one inſtance of that *hardneſs of the brain* which had always occurred to him in diſſections of the inſane [*ſtulti*]; yet there are not wanting ſimilar obſervations which deſerve to be produced.——That M. LITTRE, and M. GEOFFROY, had obſerved the ſubſtance of the *brain*, in the two *maniacs* already mentioned, much *firmer* than uſual, while the cerebellum had nearly its natural ſoftneſs: ——that LANCISIUS had found the *whole ſubſtance of the brain more compact than ordinary*, and the corpus calloſum rather hard, in the idiot [*fatuus*] repeatedly referred to;——that SANTORINUS, in the caſe of the idiot [*fatuus*] already quoted, had found the brain ſo much firmer than common, as enabled him to diſtinguiſh, and examine ſome of its parts, with greater accuracy than he could otherwiſe have done:——and that BOERHAAVE probably alluded to ſome other obſervations, beſides the one mentioned in the *ſepulchretum*, when

(3) EPIST. viii. n. 17. 18.

when he aſſerted that the *brain* of maniacs *had been found, on diſſection, to be dry, hard, and friable*, and its cortical ſubſtance of a yellow colour.¶ ——That it may farther be remarked, that though the brain be obſerved to be hard, as it was in a very eminent degree in the caſe deſcribed by GEOFFROY, as well as in the ſingle one related by BONETUS, yet *ſome parts*, and eſpecially thoſe *about the ventricles, and the baſis of the brain*, are uſually found ſofter, and moiſter, than natural.

HE then mentions ſeveral inſtances of uncommon hardneſs of the brain, in young, as well as old people; in the latter of whom, as he obſerves, HALLER † tells us, the brain is always hard, and thence accounts for their imbecillity of mind, and defect of memory;

¶ *Aphoriſm.* 1121.——See two more inſtances of this *hardneſs of the brain* in inſane ſubjects, from GUNZIUS's *Proluſio de Lapillis Glandulæ Pinealis in quinque mente alienatis inventis*; with ſome obſervations relative to the cauſe of Madneſs, in EPIST. lxi. n. 8.

† Ad *Prælection.* BOERHAAVII. § 475. Not. g.

mory; who, notwithſtanding this preternatural ſtate of that organ, ſo common in inſane perſons, had not the ſmalleſt degree of Inſanity: and adds, that, on the contrary, Inſanity [*ſtultitia*] may even exiſt without this hardneſs of the brain, and that it has been found even remarkably ſoft, and flabby, not only in thoſe diſſections of *idiots* related by TULPIUS,§ KERCKRINGIUS,‡ KING,* and SCHEIDIUS;‖ but very commonly, as the latter aſſerts, in *inſane* ſubjects, as he had not unfrequently obſerved in the diſſection of *maniacs*.

THE great Dr. HALLER ¶ was fully ſenſible

§ *Sepulchret.* Lib. 1. Sect. 10. Obſ. 16. Tom. 1. p. 259.——TULPII *Obſ. Med.* Lib. 1. cap. 27. p. 51.

‡ *Sepulchret.* ib. Obſ. 5. Tom. 1. p. 257.——KERCKRINGII *Obſ. Anat.* Obſ. 35. p. 76.

* Loco citato.

‖ *De duobus Offiſculis*, &c. qu. 4.

¶ HALLERI *Element. Phyſiolog.* Lib. xvii. Sect. 1. Tom. v. 571—574.

ſenſible of the uncertainty ariſing from this ſimilarity of appearances after ſuch different, and ſometimes oppoſite diſeaſes. Being perſuaded that much uſeful information, relative to the deſtination and offices of the ſeveral parts of the brain, might be derived from a knowledge of the corporeal cauſes found to exiſt in that organ on the diſſection of *maniacs*, and *idiots*, he took ſome pains to collect, with that view, the hiſtories of all diſſections of this ſort which fell in his way. But his ſucceſs, he informs us, was not equal to his expectations: the number of ſuch hiſtories, beſides thoſe for which we have lately been indebted to MORGAGNI, being very few; and having had no opportunity of diſſecting inſane ſubjects himſelf. — He ventures, however, from theſe ſcanty ſources, to give the following general view of the appearances on diſſection in the ſeveral kinds of delirium.

"IN *febrile delirium* the veſſels of the pia "mater have been found full of blood (1),

"——a

(1) MORGAGNI *de Sed. & Cauſ. Morb.* I. p. 53. 54. 49.

" ——a coagulated jelly has been obſerved " under the dura mater (2), —— the brain " has been hard (3), ——an eryſipelas, which " had left ſome other part, has been diſcover- " ed upon the brain, and dura mater, and " the cortical ſubſtance of the brain appeared " red and inflamed (4),——and ſcales, or " fragments of bones have been found preſ- " ſing upon the brain (5). ——In DRUNK- " ENNESS, which is a ſpecies of delirium, " the blood veſſels of the optic nerve, and of " the retina, have been viſible to the naked " eye (6).

" IN the HYDROPHOBIA, a diſorder of a " ſimilar nature, the brain has been obſerved " to

(2) MORGAGN. p. 49.

(3) IDEM. p. 80. 59. cum cerebellum mollius eſſet.

(4) STORK *ann.* I. p. 101.

(5) MANNE *Obſ.* p. 122.

(6) COWPER ad f. 28. *append.*

" to be drier than uſual (7),——the blood " rather concreted; and the veſſels of the " membranes of the brain diſtended with " blood (8)."

" THE PHRENITIS has often appeared " to ariſe from an inflammation of the pia " mater (9),——of the brain (10),——and " of the cerebellum (11),—— from water in " the brain (12),——from an unuſual quan- " tity of blood in the brain, and its mem- " branes

(7) MORGAGNI p. 61. 63.

(8) IDEM p. 62. 63.

(9) BONET. *Obſ.* 4. 5. 9. 17. 18. 19. 30. Sanguine plenæ meninges MORGAGNI I. p. 51. 52.

(10) BONET. *Obſ.* 7. 11. 12. 17. 21. 24. 25. 32. 33. 36. MEAD *of Poiſons*, p. 139. in hydrophobo G. v. SWIETEN Conf. L. X. p. 218.

(11) BONET. *Obſ.* 5.

" branes (13),——and from an abſceſs in the " brain (14)."

" IN MANIA the brain has been dry (15), " ——hard (16),——and friable ;—— there " has been a congeſtion of blood in the brain, " or its membranes (17)——part of the brain " has been conſumed, and the reſt ſoft and " macerated (18)——there have been glan- " dular ſubſtances in the plexus choroides " (19),——the carotid arteries have been oſ-

ſified

(12) IDEM. *Obſ.* 16. 27. 28. RICHA *Conſt. Epid.* III. p. 114. 34. &c. WILLIS *Anim. brut.* p. 307. Gelatinoſa concrementa ſecundum vaſa piæ membranæ MORG. I. p. 49. 51.

(13) BONET. Conf. L. X. l. c.

(14) L. X. l. c.

(15) BONET. *Obſ.* 1.

(16) MORGAGNI I. p. 55. 56. non cerebelli.

(17) IDEM *Obſ.* 26. MEKEL. l. c. In meninges BARRERE *Obſ.* p. 52. ſeqq.

(18) INGRAM *Caſes*, p. 101.

"sified (20),——and worms have been found "in the brain (21)."

"IN HYPOCHONDRIACS the brain has "been harder (22)——and drier than natu- "ral;——the blood has been coagulated in "the longitudinal sinus; in the pia mater, "it has been of a pitchy blackness (23);—— "the vessels of the brain have been distended "(24);——and there has been water in the ventricles.

(19) MORGAGNI I. p. 54.

(20) HARMES *cas. mania.*

(21) BONET. *Obs.* 7.

(22) SCHMIEDEL *de pericard.* &c.

(23) G. v. SWIETEN III. p. 264.

(24) BARRERE in *nostalgia* ed. II. *Obs.* 5. p. 20. *Obs.* 6. p. 24. LOTICH C. IV. L. III. *Obs.* 3.

(25) BARRERE ibid.

" ventricles (25). —— In the NOSTALGIA,
" which is a kind of melancholy, the veſſels
" of the brain and cerebellum have been ſur-
" priſingly diſtended (26)."

" IN IDIOTISM the head has been obſerv-
" ed to have an unnatural form (27), —— as
" when the ſkull has been compreſſed (28);
" —— the dura mater has been livid, putrid,
" and inflamed (29); —— the brain exceed-
" ingly dry; miſhaped (30); —— replete
" with blood (31); —— remarkably ſoft (32),
—— or

(26) IDEM l. c. *Obſ.* 6. p. 24.

(27) Addit. ad *Obſ.* 4.

(28) HILD. *Cent.* III. *Obſ.* 21.

(29) LIEUTAUD *precis*, p. 209. FANTON *Obſ.* 25. BONET. *Obſ.* 8. 17. compactum. LANCIS. *de ſede cogitant.* p. 158. 159.

(30) POZZI p. 88.

(31) BONET. *Obſ.* 11. FORST. *de ſenſib. intern.* p. 56. BARRERE ed. *nov.* ex hyoſcyami radice. p. 54. ſeqq.

" ——or, on the contrary, remarkably hard " (33); ——a ſcirrhous tumour has been ob- " ſerved upon the corpus calloſum (34),—— " or in other parts, compreſſing the brain " (35); ——veſicles in the corpus calloſum " (36); ——ſcirrhous tumours in the plexus " choroides (37); ——the brain leſs than na- " tural (38), ——inflamed, and corroded (39), " ——a good deal of water in the brain (40); " ——a dropſy in the brain (41) ——a ſtone " in

(32) BONET. *Obſ.* 2. 5. 16. L. X. p. 318. *Hiſtoir. de l'Acad.* 1705. *Obſ.* 17. 1704. *Obſ.* 12. Cum glandula pituitaria magna, memoria deleta & judicium deſtructum. VIEUSSENS *nov. ſyſt. vaſ. fin.*

(33) MORGAG. I. p. 55.

(34) BONET. *Obſ.* 4. PLATER. *Obſ.* 51. WEPFER *de apoplex.* p. 277. BAUHIN. *Theatr.* p. 305.

(35) DUVERNEY *de l'ouie.* p. 100. FLAMERDING *de apoplex.*

(36) *Obſ.* 12. aut in cerebro. *Opuſc. ſcientif.* III. p. 162.

(37) BOEHMER. l. c.

" in one of the ventricles (42),—— and in " the falx (43);—— the pineal gland beſet " with ſtones (44), —— become ſcirrhous " (45),—— or aſſuming a bony appearance " (46);—— and various diſorders of the brain, " as tumours of the glands, &c. (47)"

He adds that—— " from theſe few obſer- " vations,

(38) Bonet. *Obſ.* 9. 10. Ad tertiam partem conſumtum cum aqua inter meninges, King *Phil. Coll.* 1686.

(39) Rumler. l. c. Coiter p. 111.

(40) Santorin. p. 54. Boehmer. *præf. faſcic.* I. p. XVI. XVII. Bonet. *Obſ.* 1. 4. 7. 13. 14. 15. 20. Chifflet *Obſ.* Huc hiſtoria ſurdi & muti, qui auditum recuperavit, cum aqua de aure effluxiſſet. *Hiſtoire de l'Acadamie des Sciences*, 1703. p. 18.

(41) L. X. p. 319.

(42) Bonet. *Obſ.* 5. Mekel ib. p. 94

(43) Vater *propr.* ad diſp. Ziegenhorn

(44) Mekel *Mem. de Berlin.* T. X. p. 93. King l. c. Gunz. *lap. gland. pinealis*, in quinque hominibus. In ventriculo cerebri Mekel.

" vations, for which we are chiefly indebted " to MORGAGNI, but little certainty can be " derived: ſince it not only frequently " happens that we can diſcover no diſorder " in the bodies of maniacs (48), or even of " ſuch as have been totally inſenſible (49); " but where we do, we are ſo far from being " able to perceive a uniform connection be- " tween any one diſorder of the mind, and " ſome correſponding preternatural ſtate of the " contents of the ſkull, that the very ſame " appearances are exhibited after the moſt " oppoſite diſorders, idiotiſm, and phrenſy: " which laſt ſeeming inconſiſtency may poſſi- " bly appear leſs extraordinary, if we con- " ſider the ſymptoms of drunkenneſs, and " phrenſy,

(45) L. X. p. 319

(46) DUVERNEY ibid.

(47) IDEM *Mem. avant* 1699. II. p. 25. FANTON. ad PACCH. p. 112. *Opuſc.* III. p. 182

(48) *Frank. Anmerk.* T. V. p. 281. WILLIS *de cerebro* p. 188. ed. 8. MEKEL l. c.

(49) HOME *Med. facts.* p. 53.

" phrenſy, in which we may obſerve that the " very ſame cauſe produces at firſt delirium, " and afterwards, as the diſorder advances, " drowſineſs, and inſenſible ſtupor. This, " however, ſeems evident, that in the diſor- " ders of the mind, the brain and its con- " nections are uſually affected : and when, in " ſome rare inſtances, we can diſcover no diſ- " eaſe of theſe parts, we may conclude, ei- " ther that it is ſeated in their very elemen- " tary particles, or has not been ſought for " with ſufficient patience and attention."

To add to this uncertainty which attends our enquiries into the ſeveral ſpecific ſtates of the brain reſpectively productive of the ſeveral ſorts of Inſanity, or other depravations, or defects, of the mental operations, it may be remarked, that there are inſtances upon record of a total deſtruction of that organ by diſeaſe, without any conſequent injury to the faculties of the mind. Theſe inſtances are indeed as rare, as they are unaccountable, and ought rather, perhaps, to be conſidered as anomalies which we cannot analyſe, than as

as objections to the doctrine of the general agency of the brain in the production of ſenſation, of voluntary motion, and of every other perception and operation of the mind. Indeed, numberleſs clear, and deciſive facts, forbid us to conclude with the late ingenious Dr. SIMSON—"*that no bowel is more fre-*" *quently mutilated, and even quite deſtroyed, with* "*leſs injury to the œconomy than the brain :*" ‖ "—or that "*ſenſe and motion are not*" uſually "*derived from that organ :*" †—or that the objections ariſing from theſe extraordinary phænomona againſt the utility of the brain in the performance of theſe neceſſary offices of animal life, and in the exerciſe of the various faculties of the mind, are not equally valid, or indeed much more ſo, againſt his ſingular opinion, founded chiefly upon theſe objections, that the ſole uſe of the brain is to "*keep ſtores*

‖ *Inquiry.* p. 224.

† Ibid. p. 228.

ſtores for the equal and ready ſupplies of nouriſhment promiſcuouſly to every part" of the body. *

SEVERAL inſtances of the defect, deſtruction, and oſſification of the brain, may be ſeen related at length, and others referred to, in *this ingenious phyſician's inquiry how far the vital and animal actions of the more perfect animals can be accounted for independent of the brain.* ¶ To which may be added one given by BONETUS, § and extracted from PLATERUS, in which the brain was converted into a thick white fluid pultaceous ſubſtance, or, as he in another place deſcribes it, into a fluid ſubſtance of the colour, and conſiſtence of cream, ‡ which was perceived to fluctuate on taking off the upper part of the ſkull, and flowed out when the dura mater was cut through.

* Ibid. p. 228.

¶ Ibid. p. 224. 225. 226. and 259.

§ *Sepulchret.* Lib. 1. Sect. 2. Obſ. 54. Tom. 1. p. 123.

‡ *Prax. Medic.* Lib. 1. cap. 2. Tom. 1. p. 22.

SECTION V.

Of the CAUSES *of* INSANITY.

IN treating of cauſes we tread upon ſlippery ground; and are liable to much obſtruction, and perplexity, from the intricacy of the way, and the imperfect and doubtful lights on which we are obliged to rely; ſo that it is often exceedingly difficult to fix any firm and ſecure footing, and ſtill more ſo to make any conſiderable advances towards truth and certainty. It will, therefore, be adviſeable to ſtep with caution, if we wiſh to proceed with ſafety and ſucceſs, and would avoid falling into error, or bewildering ourſelves in doubt and obſcurity.

PATHOLO-

PATHOLOGICAL writers have ſaid a great deal on the cauſes of diſeaſes, and have diſtinguiſhed them by a variety of appellations according to their different natures, and the ſeveral relations which they bear to the diſorders in whoſe production they are concerned.

ON this ſubject, as on many others, the more early modern writers have been as uſeleſsly, as they have been indefatigably, minute; and, improving upon the ſubtilty of their venerable maſters, ARISTOTLE and GALEN, have enumerated cauſes with the moſt inſignificant and diſguſting refinement, and have multiplied diſtinctions without end.

OF theſe diſtinctions the more important have been retained by the later moderns; who uſually diſtribute the cauſes of diſeaſes under the three heads of *prediſpoſing*, *occaſional*, and *proximate*; and ſometimes, which ſeems to be ſtill better, only under two, which they term *remote*, and *proximate*: for though

though the former diviſion ſeems to have a real foundation in nature, and, as explained in the writings of pathologiſts, appears beautiful in theory, and is not, perhaps, altogether void of practical utility; it is rather perplexing than eaſy in the application, and whatever may be its conveniences, when we have any particular caſe in contemplation, is ſeldom, if at all, applicable in treating of a diſeaſe in general: and is, perhaps, upon the whole, much leſs ſerviceable in facilitating the inveſtigations of the actual practitioner, than in opening and enlarging the views of the ſtudent, by ſhowing him the very lax, and unphiloſophical ſenſe, in which the term *cauſe* is, and neceſſarily muſt be uſed, on moſt occaſions, in the writings of phyſicians.

AVOIDING, therefore, the former of theſe diviſions of cauſes, as more apt to bewilder than to enlighten; and adhering to the plain direct paths of experience and obſervation; I ſhall arrange ſuch cauſes as are either known, or thought to have ſome ſhare

in

in producing Inſanity, in the cleareſt and ſimpleſt manner, according to what appears to me to be the beſt, becauſe the moſt diſtinct and practical diviſion of them, into *remote* and *proximate*: the *former* containing all thoſe cauſes which have commonly been marſhalled under the diſtinct heads of *predisposing* and *occaſional*; and which are either obviouſly ſtriking, or more latent and only to be deduced from reaſoning on what we plainly ſee and know; either external or internal; recent or inveterate; accidental, or conſtitutional:——and the *latter*, which is wholly internal, being of *the nature of a real phyſical cauſe, and ſo neceſſarily connected with the diſeaſe, that the one exiſting, continuing, changing, or ceaſing, the other muſt of courſe exiſt, continue, change, or ceaſe.* ¶

REMOTE

¶ "Miſſis aliis minoris momenti cauſarum differentiis, ex "hucuſque propoſitis conſtare poteſt, eam ſolam, quam ſano ſen- "ſu dixi proximam aut continentem, *veræ cauſæ phyſicæ inge-* "*nium præ ſe ferre, quæ morbum ita efficiat ut illa poſita hic po-* "*natur, durante duret, mutata mutetur, ablata tollatur.*" GAUBII *Inſtitut. Patholog. Medicinal.* § 61. p. 18.

REMOTE CAUSES.

OF *remote cauſes* we can ſpeak with ſome degree of preciſion; as a conſiderable knowledge of them may be acquired by experience and obſervation; they being, for the moſt part, either the immediate objects of our ſenſes, or directly, and clearly, deducible from known facts which are ſo.

WE are by no means, however, free from the poſſibility of error even here: and we are not a little liable to deficiency. Some of our ſuppoſed cauſes may have but a ſmall ſhare in producing the diſeaſe in queſtion; ſome may have no other relation to it than that of originating from the ſame common cauſe; others may have no connection with it at all, and only exiſt accidentally at the ſame time; and others which may have ſome real, and immediate, relation to it, may not have that of a *cauſe*, but an *effect*. Of one or other of the

the three laſt mentioned ſorts, are, I believe, many of the *Appearances on Diſſection*. It may be better, however, to admit an imaginary cauſe, than to reject a real one: ſince, after all our care and attention in collecting them, our catalogue of remote cauſes will inevitably have many deficiencies, which time and obſervation alone can ſupply; and the ſame time and obſervation, while they enlarge our acquaintance with real, may enable us to reject with certainty ſuch ſuppoſed cauſes, as we could not have diſcarded at an earlier period, on any better ground than that of mere ſuſpicion. For theſe reaſons I ſhall admit many of the appearances obſerved on diſſection, and other circumſtances noticed by practical writers, into the liſt of cauſes, in which I am not poſitive that they really merit a place.

THE *remote cauſes* of Inſanity naturally divide themſelves into *two kinds*, BODILY and MENTAL.

(A) THE BODILY CAUSES are either

(I)

(I) ſuch internal ones as are immediately ſeated in the brain, its veſſels, and membranes: or (II) ſuch external ones as operate mechanically upon that organ: or (III) ſuch cauſes as, while they affect the ſyſtem in general, at the ſame time produce Inſanity, either by acting *directly*, and immediately, upon the brain; or by effecting ſuch a *gradual change* in the body, as diſpoſes to Inſanity by diminiſhing the healthful tones, occaſioning debility, inducing *morbid irritability* and *ſenſibility*, and exciting uneaſy and painful ſenſations: or (IV) ſuch as, being ſeated in, or primarily affecting, ſome particular parts, give riſe to Inſanity, either by *ſpeedily*, and ſometimes almoſt inſtantaneouſly diſordering the brain, as by ſympathy, or tranſlation; or by operating *ſlowly*, and introducing, like the third ſort of cauſes, ſuch a *gradual change* in the conſtitution as diſpoſes to, and readily terminates in, Inſanity.

(B) THE

(B) The MENTAL CAUSES all conſiſt either in the immediate, and *intenſe action of the mind* itſelf (V. VI. VII.); or in ſuch a *conſtitution of mind* (VIII), either natural, or acquired, as diſpoſes it to be eaſily put into a ſtate of intenſe action. In the *former caſe*, it is earneſtly fixed on one, or a few, (V. VI), or buſily ranging through a variety (VII) of objects: in the *latter* (VIII), it is in a ſtate of *imbecillity*, which renders it incapable of withdrawing its attention from any train of thinking in which it has engaged (V), diſpoſes it to be readily carried away by the impulſe of the paſſions (VI), or deluded by the haſty and ſuperficial combinations of imagination (VII); and is ſubverſive of ſelf-command, rational conduct, and ſound judgment.

THE whole of the remote cauſes may be arranged in a table as follows:

A Table of the REMOTE CAUSES of INSANITY.

(A). BODILY CAUSES.

I. Internal cauſes ſeated in the brain, its veſſels, and membranes.

1. Unuſual firmneſs, hardneſs, dryneſs, and friability of the brain.

2. Hard ſubſtances, and other preternatural tumours and excreſcences in various parts of the brain, ſuch as
   - A tumour on the corpus calloſum,
   - Hydatids and
   - Indurated glands in the plexus choroides,
   - Enlargement, induration, and ſtony hardneſs of the pineal gland,
   - Unuſual thickneſs, and firmneſs, and oſſifications, of the coats of the carotid arteries.

3. Purulent, ſanious, or mucous matter,—or
   Extravaſated, often black, and ſometimes concreted blood, or
   Water,——in the ventricles, in the ſubſtance

ſtance of the brain, between the brain and its membranes, and between the membranes :-- and

Polypous concretions, or

Coagulated blood,—in the ſinuſes.

4. Diſtention, and

Enlargement,—of the veſſels of the brain and its membranes.

5. Inflammation of the brain, and its membranes.

6. Induration,

Incraſſation, and partial

Oſſification,—of one, or both membranes of the brain,

Adheſion of the dura mater to the ſkull, or of the membranes to each other.

7. Any other internal cauſe of compreſſion, or irritation, of the brain.

II. External cauſes which operate mechanically upon the brain.

1. Exoſtoſes of the inner table of the ſkull.

2. Depreſſion, or fracture of the ſkull.

3. Concuſſion of the brain.

4. The immediate action of the burning rays of the ſun upon the head, in hot climates; termed

termed by modern medical writers *insolatio*, or *coup du soleil*.

5. Smallness of the head, early obliteration of the sutures, or, in short any external cause, compressing, confining, or irritating the brain.

6. A swelling in the neck.

III. Causes affecting the body in general, which produce Insanity, either by acting *directly* upon the brain, or by introducing a *gradual* change in the system which disposes to Insanity.

1. Phrenitis,
Other delirious fevers,
Small pox.

2. Great heat of climate.

3. Immoderate exercise, and especially in a dry and hot air.

4. Profuse evacuations.

5. Excessive venery.

6. Defect of nourishment.

7. Fevers, of whatever kind, which have continued long, have frequently recurred, have terminated

terminated with an imperfect criſis, or have not been treated with proper dilution.

8. An inactive, and ſedentary life.

IV. Cauſes ſeated in, or primarily affecting, ſome particular parts, and giving riſe to Inſanity, either by acting *ſpeedily* upon the brain, as by ſympathy, or tranſlation; or by operating more *ſlowly*, and producing ſuch a gradual change in the conſtitution as diſpoſes to Inſanity.

1. A diſeaſed ſtate of the abdominal viſcera, and neighbouring parts; as of the
   Stomach,
   Pylorus,
   Inteſtines,
   Pancreas,
   Meſentery and
   Meſenteric glands,
   Liver,
   Spleen,
   Hæmorrhoidal veſſels,
   Kidneys,
   Glandulæ atrabiliariæ,
   Omentum,
   Peritoneum and parts adjoining.

2. Whatever tends to induce, or is the conſequence of, an infirm ſtate of the ſtomach, and

and inteſtines; as
Hard and indigeſtible aliment,
The immoderate uſe of warm diluting liquors,
Intemperance in diet of any kind,
Viſcid phlegm,
Worms.

3. Active ſubſtances taken into the ſtomach which immediately affect the nerves and brain, by ſympathy, and have a tendency to produce delirium; as
Wine,
Opium, and other
Narcotics, and
Poiſons.

4. A diſordered ſtate of the
Womb,
Ovaria,
Spermetic veſſels.

5. The retention, or ſuppreſſion of any cuſtomary evacuation, whether natural, or preternatural; as
The lochia,
Milk,
Menſes,
Piles,
Old ulcers.

6. Metaſtaſes,

6. Metaſtaſes, or tranſlations, to the brain, as in the repelled
   Gout,
   Eryſipelas,
   Herpes,
   Cutaneous eruptions.

7. Worms in the noſtrils, or frontal ſinuſes.

(B). Mental Causes.

V. Intenſe application of mind to
1. Study ;

2. Buſineſs, or ſchemes, of any kind, that require great and unremitted attention, or much exertion of genius ;—or

3. Any ſort of employment of the mind, which may keep it for a long time in an active and wakeful ſtate.

VI. Paſſions of various kinds, when ſudden, violent, or habitual ; as
1. Surpriſe, or aſtoniſhment.

2. Joy.

3. Enthuſiaſm, or religious joy.

4. Pride, and vanity.

5. Deſire.

5. Deſire.
6. Anger.
7. Hatred, or averſion.
8. Love.
9. Ambition.
10. Avarice.
11. Diſtreſs.
12. Grief.
13. Deſpair.
14. Fear.
15. Suſpicion.
16. Jealouſy.
17. Anxiety.
18. Religious fear.

VII. Too great activity of imagination.

VIII. Imbecillity of mind.

How

How the bodily cauſes which operate immediately upon the brain are capable of producing Inſanity, we may form ſome notion from the obvious analogy between the delirium which conſtitutes this diſorder, and that of a fever: but how Inſanity is excited by thoſe bodily cauſes which do not act immediately upon the brain, is not, perhaps, at firſt ſight, ſo evident. This, it is probable, will be better underſtood, after a general preliminary view of the mutual influence of the mind and body on each other in the production of ſenſation and motion; in the generation of the appetites; and in the excitement, and operation, of the paſſions: the previous conſideration of which, will not only throw ſome light upon this matter; but prepare the way for a more minute and accurate explanation of the *mental cauſes*——intenſe thinking,——violence, or ſenſibility, of paſſion,——and imbecillity of mind.

And though, that there is ſuch a mutual ſympathy between the body and mind, and that

that the operations of the one are greatly influenced by the affections of the other, is very generally acknowledged in the writings of phyſicians, and philoſophers; and is, indeed, ſo evident, as ſcarcely to need a proof; it ſeems nevertheleſs proper, in this place, to illuſtrate this important truth with ſome degree of minuteneſs and preciſion, ſince very few have treated it with that exactneſs which its extenſive application, and uſefulneſs, in explaining the theory of the human frame, and faculties, appear to demand; and, however frequently it be implied in their reaſonings, it is rarely ſufficiently attended to, either by medical, or philoſophical writers, in its various forms and conſequences.

THE philoſophers of antiquity were ſo ſenſible how much the body was concerned in the operations of the mind, that not a few of them ſuppoſe theſe operations to be nothing more than the reſult of a certain appropriate ſtructure, diſpoſition, and harmony, of its parts;

parts ; and that mind was merely a modification of matter. CICERO, in his *Tuſculan Diſputations*,* ——after enumerating a variety of opinions relative to the nature and ſeat, of the ſoul ; as that it was the heart, the blood, the brain, the breath, fire ; or that, whatever was its nature, its ſeat was in the heart, or in the brain ;——adds, among others, ſeveral of which are of a ſimilar tendency, the following——" *As many of the antients*, ſays " he, *formerly, and very lately* ARISTOXE- " NUS, *a muſician and philoſopher, conſidered* " *the ſoul as a kind of tone of body, which, like* " *that of the voice in ſinging, or of the ſtrings of* " *a muſical inſtrument, was termed* HARMONY ; " *ſo they ſuppoſed that various motions, like mu-* " *ſical ſounds, were excited in the body, in con-*

" *ſequence*

* " Ut multi ante veteres, proxime autem ARISTOXENUS, " muſicus idemque philoſophus, ipſius corporis intentionem " quamdam, velut in cantu & fidibus, quæ HARMONIA dicitur ; " ſic ex corporis totius natura & figura varios motus cieri, tan- " quam in cantu ſonos. Hic ab artificio ſuo non receſſit, & ta- " men dixit aliquid, quod ipſum quale eſſet, erat multo ante & " dictum & explanatum a PLATONE."——Lib. I. cap. 10.

"*ſequence of the peculiar nature and ſtructure of*
"*the whole. In adopting this theory he might be*
"*influenced by its analogy with the art he profeſ-*
"*ſed: but, however this may be, he only aſ-*
"*ſerted what had long before been mentioned,*
"*and explained, by* PLATO."

BUT ſuppoſing, as ſeems moſt probable, that the ſoul is an immaterial ſubſtance, and as CICERO expreſſes it, being of a divine nature, and original,† has a principle of motion within itſelf, which eſſentially diſtinguiſhes it from every material ſubſtance;‖ or according to ARISTOTLE, a fifth principle, which he terms *Endelecheia*, totally different from the four known material elements, and poſſeſſing powers, and properties, of which they are found, by uniform experience, to be deſtitute, as the faculty of thought, of foreſight, of receiving and communicating inſtruction, of invention, memory, love, hatred, deſire,

† *Ib.* Lib. I. cap. 27.

‖ *Somn. Scipion.* cap. 10.

deſire, fear, diſtreſs, joy, and the like;—— it is not only obvious that in ſenſation, and voluntary motion, the ſoul and body mutually act upon, or influence, each other; that wine, opium, and ſeveral ſorts of poiſon, much affect, and often greatly diſorder the mind, by the mediation of the body; and that the mind, on the other hand, by means of the paſſions, is capable of wonderfully affecting, and diſordering the body, and even of exciting, on ſome occaſions, ſuch violent commotions, as ſuddenly to diſſolve their mutual union;¶——but ſome have gone ſo far, and perhaps not wholly without reaſon, as to aſſert that the diſpoſitions of the ſoul appear to be much influenced by, if they are not in a great meaſure dependent upon, the temperament, and conſtitution, of the body. Of this opinion were HIPPOCRATES, PLATO,

¶ HOFFMANNI *De Animo Sanitatis & Morborum Fabro.* Oper. Tom. 5. p. 259. § X. p. 260. § XV. XVI.

All who have written upon the effects of the paſſions, and of the imagination, upon the body, abound with facts of this ſort

TO, ARISTOTLE, GALEN, and many others among the antients; the latter of whom has left us an expreſs diſſertation upon the ſubject:‡ and among the moderns, to omit a long liſt of leſs eminent names, both of phyſicians and philoſophers, the celebrated HOFFMAN,* ARBUTHNOT,† and MONTESQUIEU.‖

HOW far it may be in the power of the mind to reſiſt, and counteract, the influence of temperament, climate, or any other bodily

‡ *De animi morum & corporei temperamenti mutua conſequutione, liber unus.*——LACUNÆ *Epitom. Operum* GALENI. p. 68.

* *Med. Rat. Syſt.* Tom. I. Lib. 1. Sect. 1. cap. 1. § XXXIV. *Oper.* Tom. 1. p. 29.—and cap. 9. § XXX. &c. *Operum* Tom. 1. p. 52.——*De temperamento fundamento morum & morborum in gentibus. Operum* Tom. 5. p. 103—111. ——*Exercitatio phyſico-medica de mentis morbis ex morboſa ſanguinis circulatione ortis.* Supplem. Vol. 2. p. 329—339.

† *Eſſay concerning the Effects of Air on Human Bodies.* p. 148. &c. &c.

‖ *Spirit of Laws.* Book XIV. *Of Laws as relative to the Nature of the Climate.* Alſo Book XV. &c. Vol. I. p. 277, &c.

ly ſtate which may have a tendency to deprave its moral feeling, and impel it to a vitious conduct; or, by its exertions, and habitudes, to induce ſuch a change in the bodily ſtate as ſhall cooperate with its virtuous propenſities; this is not a proper place to enquire. It will be ſufficient, at preſent, to ſhow that there is a mutual ſympathy between the body and mind; and that certain ſtates of the one infallibly produce, or are accompanied with, certain ſtates of the other.

IT is owing to this mutual ſympathy and influence, that *chearfulneſs of mind* is naturally connected with, and not only ſtrongly tends to, but, no other more powerful cauſe of diſeaſe counteracting it, will neceſſarily produce health of body: and that *health of body*, where no particular cauſes of diſtreſs intervene, is always accompanied with habitual chearfulneſs of mind; and, where ſuch cauſes do intervene, protects the mind from the influence of any trifling, or leſs urgent ones, and does not eaſily ſuffer it to be violently ruffled,

ruffled, or permanently dejected, by cauſes which would overwhelm with affliction ſuch weak minds as infirmity, and diſeaſe, had rendered effeminate, puſillanimous, and gloomy.

FOR the ſame reaſon *ſolicitude, timidity, grief, and every other anxious and diſtreſsful affection*, weaken the body, diminiſh the healthful tones, and, when long indulged, introduce a moſt haraſſing, and diſmal, train of nervous and other diſorders: while, on the other hand, *bodily diſeaſe*, and eſpecially of what is called the nervous kind, is naturally productive, more or leſs according to its nature, degree, and duration, of languor, diſcontent, peeviſhneſs, dejection, and of all the painful, melancholy, and ſelf-tormenting paſſions; which growing by habit, and the reciprocal growth of their cauſes, not uncommonly terminate in the inexpreſſible miſeries of anxiety, and diſtreſs, or the more dreadful anguiſh of horror and deſpair.

IT,

IT is from the ſame ſource that *all the paſſions*, whether gloomy or chearful, ſelfiſh or benevolent, when excited by their proper external cauſes, produce a determinate, and ſpecific, ſtate of body, as will be ſhown at large in its proper place; and that certain ſtates of body, if they do not actually produce certain paſſions, at leaſt diſpoſe the mind to be ſtrongly affected by ſuch objects as have a tendency to excite them.——But to proceed to particulars.

THERE are *certain circumſtances in the ſtate of the body* on which its *health, and vigour*, greatly depend; and which are much concerned in the production of thoſe agreeable, or diſagreeable influences, with which the mind and body mutually affect each other.

AS the various degrees of *tenſion* in the ſtrings of a muſical inſtrument, fit it to produce acute or grave, harmonious or diſcordant, pleaſing or unpleaſing ſounds, in proportion

portion to their intenſeneſs, and to their mutual correſpondency or diſagreement :——ſo the various changes in *theſe circumſtances in the ſtate of the body* diſpoſe it to move harmoniouſly, or diſcordantly, to every movement of the ſoul, or to the touch of whatever, from without, is by nature adapted to call forth its vibrations ; and to affect the ſoul with pleaſure, or pain, accordingly as thoſe vibrations are of the one kind or of the other. The ſtate of the body on which theſe vibrations, and in the changes of which theſe changes depend, has, for this reaſon, not improperly been called its TONE :——not becauſe any of its fibres, whether nervous, vaſcular, or muſcular, are ſtrung to vibrate like a muſical chord, and thus to communicate ſenſation to the mind, or to receive motion from its impulſes ; but becauſe a certain harmonious adaption of its ſeveral parts fits it to be ſuitably affected by external objects ; renders it exquiſitely reſponſive to every impulſe of the divine

vine muſician within; and diſpoſes it, on every occaſion, to affect the mind, with pleaſure, or pain, in a due degree, and as the nature of the exciting cauſe requires, in proportion to the perfection, or deficiency, of its reſpective tones and harmonies.

THIS TONE of body ſeems naturally diviſible into three kinds, — the *muſcular*, — *vaſcular*, — and *elaſtic*: — the *laſt* of which entirely depends on the general, and habitual, ſtate of the conſtitution; is permanent during that ſtate; is ſeldom capable of ſudden changes; and is the baſis of the *other two*; which for this reaſon depend, in like manner, a good deal upon the general ſtate of the conſtitution; they are liable, however, at the ſame time, to be greatly influenced by the ſudden action of a variety of occaſional cauſes, as of the appetites, paſſions, pleaſing or painful ſenſations, or the like, as will plainly appear after a farther explanation of their nature, and of the nature and effects of the paſſions on the muſcular and vaſcular

ſyſtems

ſyſtems; and are, of courſe, capable of very conſiderable, rapid, and tranſient changes.

By ELASTIC TONE I mean that ſtate of the body which reſults from the texture, and coheſion, of the conſtituent, and elementary particles, of its ſeveral parts; which varies as their texture, and coheſion vary; and in the variations of which conſiſt their various degrees of mechanical ſtrength, or weakneſs. The perfection, or middle point, of this kind of *tone*, ſuch as we ſee in perſons of high health, and of vigorous conſtitutions, may be called *firm*; and the extremes, on each ſide, of which we meet with examples in old, and in hard labouring people on the one hand, and in children, in delicate people, and in all who have long laboured under unfeebling chronic diſorders on the other, may be denominated *rigid* and *lax*.

In order to explain what I underſtand by MUSCULAR TONE, it is proper to obſerve that every muſcle in an animal body affects, as its natural ſtate, a certain degree of contraction

traction when, apparently, at reſt ; and that, when in an obviouſly active ſtate, it ſtill farther ſhortens itſelf :—that each muſcle, excepting the ſphincters, thoſe of the vaſcular ſyſtem, of the œſophagus, ſtomach, inteſtines, tongue, and perhaps a few others, —of which, however, all, but the ſphincters, being placed round hollow cylinders, or compoſed of fibres which, running in contrary directions, counteract each other, are nearly in the ſame ſituation as to the reſiſtance to their action,—has two fixed points, which oppoſe its contraction in ſome degree, and keep it in a ſtate of moderate tenſion :—that this tenſion admits of conſiderable latitude, and is liable to variation between the extremes, according to the various ſtates of the muſcular fibres themſelves, of the veſſels which nouriſh them, of the cellular membrane which ſurrounds and connects them, and of the nerves by which they are animated ; and that the muſcles act with more or leſs eaſe, ſteadineſs, regularity, and force, in proportion as the degree of tenſion is greater

er or leſs:——that when, therefore, by means of a *firm elaſtic tone* of fibres, a proper ſupply of healthful blood to their veſſels, and a ſufficient depoſition of the neceſſary fluid in the cellular membrane which ſurrounds every fibre, and every bundle of fibres, duly filling the interſtices, the muſcles have acquired juſt ſuch a degree of tenſion as enables them to act on every occaſion with eaſe, and ſtrength, their *tone* may be ſaid to be *vigorous*.——When from an increaſe of theſe cauſes, in a very full and healthy habit, and from much muſcular exerciſe, they are able to contract with ſtill greater force, they may then be ſaid to poſſeſs an *athletic tone*.——But when, from an enormous quantity of fat, the muſcular fibres are weakened, by being ſeperated, overſtretched, diſtorted, impeded, and overloaded; and ſtill more, when from a ſubſequent emaciation they are greatly relaxed; as well as, when, from a defect of their natural and healthful quantity of blood and other fluids, either from inanition, or from a fault in the chylopoietic viſcera, occaſioning a want of due

due nouriſhment, or from any other cauſe, they are both relaxed, and perhaps otherwiſe weakened, their *tone* may then be called *infirm*; and as well from a deficiency of a requiſite degree of tenſion, as of a *firm elaſtic tone*, their exertions are weaker than they ought to be, and they are more or leſs apt to be thrown into ſpaſms, in proportion to the degree of theſe imperfections; and eſpecially if they happen, at any time, to act in an unnatural, or diſtorted ſituation, or to contract more ſtrongly then is neceſſary to overcome the reſiſtance they meet with.

VASCULAR TONE is, for the moſt part, very cloſely connected with the elaſtic and muſcular tones of the ſyſtem in general; depends in a great meaſure, if not wholly, on the elaſtic and muſcular tones of the coats of the veſſels; and conſiſts in the peculiar ſtates of irritability of their muſcular fibres, reſulting from thoſe tones.

WHEN the heart, and arteries, poſſeſs that degree of elaſtic and muſcular tones, and of

of irritability, which is neceſſary to the equal circulation, and diſtribution of the blood over every part of the body; when the veſſels whoſe peculiar office it is to perform the ſeveral ſecretions, and excretions, are in like manner qualified for the due and regular execution of the buſineſs allotted to them; and the abſorbent and exhalent veſſels are alſo in a proper ſtate for the fulfilling of their ſeveral appointments; the *vaſcular tone* may then be ſaid to be *healthful*.——When to *rigid* or *firm elaſtic*, and *athletic* or *vigorous muſcular* tones, is added unuſual irritability of the muſcular coats of the arteries, their *tone* is then *inflammatory*. But when in the coats of theſe veſſels there is a *defect* of *elaſtic* and *muſcular* tones, the one being *lax*, and the other *infirm*, and conſequently, a defect of nervous power, the vaſcular *tone* may be called *nervous*. In this tone of body, while the action of the heart and arteries, and of the whole vaſcular ſyſtem, is too weak, it may be

be either *too irritable* and active, or *too dull*, and languid.

THUS we see that ELASTIC TONE may be either *firm*,——or *rigid*,——or *lax*:——

THAT MUSCULAR TONE may be *vigorous*,——or *athletic*,——or *infirm*.

THAT VASCULAR TONE may be *healthful*,——*inflammatory*,——or *nervous*;——and that the last of these may be either too *irritable* and active,——or from a want of irritability, too *dull* and languid:——

THAT *firm elastic*,——*vigorous muscular*,——and *healthful vascular* tones, are naturally connected:——that the *two former*,— as well as the *rigid elastic*,——and *athletic muscular*,——have some degree of connection with *inflammatory vascular*:——and that there is a similar relation between the *lax elastic*,— *infirm muscular*,——and *nervous vascular*.

THERE is, also, a mutual relation between the state of the *tones*, and that of the *brain*

brain and nerves:——and as the ſtate of the *former* depends, immediately, or more remotely, upon that of the *latter*; ſo the ſtate of the *latter* has, in its turn, either directly, or indirectly, a dependence upon the *former*.

THIS mutual dependence of one part of our frame, and conſtitution, upon another, is plainly obſervable in many of the functions of the animal œconomy; which are ſo cloſely, and intimately, connected, that it is not an eaſy matter to give an explanation of any one of them, without taking ſeveral things for granted, as already known, of ſome others, which have not yet been explained;—that it is ſcarcely conceivable that one can be materially injured, without the others ſuffering at the ſame time;——and abſolutely impoſſible for one entirely to ceaſe, without the others, ſooner, or later, ceaſing likewiſe;—— all of them forming together a kind of circular chain, of which there is no beginning, and no termination; and of which every link has a neceſſary connection, and dependence, upon all the reſt. Thus the brain

brain and nerves, which ſeem to be the very fountain, and origin, of life and motion, depend every moment, for the ſupply of their power, upon the organs of degeſtion, and chylification, upon the abſorption of the lacteals, the paſſage of the chyle through the thoracic duct, the circulation of the blood, and other functions neceſſary to animal life; and each of theſe functions depends, in like manner, immediately upon the brain and nerves, and more or leſs remotely upon all the others.

As the *nervous power* and *animal functions* have thus a mutual dependence; ſo have *this power* and the *bodily tones*, which riſe or fall, are healthful or debilitated, flouriſh or decay, together. Indeed the ſeveral tones of the body ſeem to be nothing more than ſuch ſtates of its active and ſentient parts as render it more or leſs fit to influence, or be influenced by the mind, by means of the power reſiding in the *brain* and *nerves*, and immediately communicating with thoſe parts through the channel

channel of the *latter*; and, in the one caſe, to be excited to action by volition, and the paſſions, and, in the other, to excite ſenſation, according to certain uniform, and eſtabliſhed laws of the animal machine, whence are derived all the poſſible varieties of motions, perceptions, and ideas.

PERFECTION, therefore of tones, perfection of health, perfection of ſenſation and voluntary motion, perfection of mental powers, and perfection both of bodily comfort, and intellectual ſerenity, where no natural or moral evils interfere to deſtroy the happy union, ſeem naturally related: and, while, on the one hand, the mind ſeems to be affected, for the moſt part, with eaſe, chearfulneſs, and good ſpirits, by the vigorous; and with uneaſineſs, dejection, and languor, by the weaker, and leſs perfect tones; on the other hand, the oppoſite tempers of mind, chearfulneſs and melancholy, reciprocally affect the body with the tones of vigour

vigour and health, or with thoſe of infirmity and diſeaſe.

IT may farther be added, that the *firm*, *vigorous*, and *healthful* tones, are connected with eaſy and accurate ſenſation, ſtrong mental faculties, temperate paſſions, and rational fortitude;——the *rigid*, *athletic*, and *inflammatory* tones, with dulneſs of ſenſation, ſlowneſs of underſtanding, obſtinacy of paſſion, and brutal courage;——and the *lax*, *infirm*, and *nervous tones*, with livelineſs of ſenſation, quickneſs of conception, ſenſibility of paſſion, and great timidity.

THE different temperaments of the antients, ſo far as they had a real exiſtence in nature, ſeem to have been little more than ſo many different combinations of theſe bodily tones.

THE mind cannot act directly, and can, therefore, occaſion no immediate change, on the *elaſtic tones*, which, reſulting from the texture and coheſion of parts, can only admit of

of a gradual one:——but, by means of its inſtruments, the nerves, or rather, by means of the power reſiding in them, it can immediately, and inſtantaneouſly, act upon the *muſcles*; as in the production of voluntary motion; and, perhaps of certain other motions, and affections, as tremblings, debility, and the like, which are the attendants of ſome of the paſſions, are the conſequence of the violent commotions which they ſometimes raiſe in the nervous, and muſcular, ſyſtems, and have no dependence upon volition:—— and it can likewiſe, by means of the paſſions, ——ſeldom, and perhaps never, by volition, ——immediately, and inſtantaneouſly affect the *vaſcular ſyſtem*, and eſpecially the heart and arteries, and produce at leaſt a temporary change on their tone; as will particularly appear when we come to conſider the influence of the paſſions, which, beſides their ordinary effects on the body, have not only been known to occaſion the moſt ſudden, and wonderful alterations in its ſtate, but ſometimes even death itſelf.

THESE

THESE changes produced by the mind in the *muſcular*, and *vaſcular* tones, when conſiderable, when of long duration, and when frequently repeated, may in time give riſe to the correſponding changes in the *elaſtic* tones; and thus give habit, and permanency, to what was at firſt but accidental, and temporary. So much is it in the power of the mind to injure, or improve, the frame and conſtitution of the body.

IN what the power of the nerves conſiſts, and how it operates in exciting the motions of the muſcular, and vaſcular ſyſtems, or in conveying ſenſation to the mind; is exceedingly difficult, if not impoſſible, exactly to determine:——nor, indeed, is it of much conſequence, in our reaſonings concerning its effects, to aſcertain——whether the nervous power reſides in an inconceivably fine fluid, peculiar to the animal ſyſtem, ſecreted in the brain, diſtributed, by means of the nerves, to every part of it, and ſerving as an inſtrument of communication between the mind and body, as many have believed, and BOERHAAVE,*

ERHAAVE,* with much plauſibility, has endeavoured to prove; —whether it be no more than the ſubtile medium which has been ſaid by Sir ISAAC NEWTON † to pervade

* *Inſtitut. Medic.* § 274, 275. &c.

† "Adjicere jam liceret nonnulla de ſpiritu quodam ſubtiliſſimo corpora craſſa pervadente & in iiſdem latente; cujus vi & actionibus particulæ corporum ad minimas diſtantias ſe mutuo attrahunt, & contiguæ factæ cohærent; & corpora electrica agunt ad diſtantias majores, tam repellendo quam attrahendo corpuſcula vicina; & lux emittitur, reflectitur, refringitur, inflectitur, & corpora calefacit; & ſenſatio omnis excitatur, & membra animalium ad voluntatem moventur, vibrationibus ſcilicet hujus ſpiritus per ſolida nervorum capillamenta ab externis ſenſuum organis ad cerebrum, & a cerebro in muſculis propagatis. Sed hæc paucis exponi non poſſunt, neque adeſt ſufficiens copia experimentorum, quibus leges actionum hujus ſpiritus accurate determinari & monſtrari debent."——Sir ISAAC NEWTON's *Principia*, as quoted by Dr. BRYAN ROBINSON, in his *Obſervations on the Virtues and Operations of Medicines.* p. 2.

"*I might here add ſomething concerning a moſt ſubtile ſpirit which pervades, and reſides in groſs bodies; by the power, and action, of which, the particles of bodies mutually attract each other at exceedingly ſmall diſtances, become contiguous, and cohere; and electric bodies act at greater diſtances, both in repelling and attracting ſmall neighbouring bodies; and light is emitted, reflected, refracted, inflected, and imparts heat to bodies; and all ſenſation is*

vade the whole ſyſtem of the material creation, and to which he has given the name of ÆTHER, under a peculiar modification in the bodies of animals; by means of the vibrations of which, as that great philoſopher has conjectured, along the ſolid capillaments of the nerves, excited by external objects, and propagated to the brain; or excited by the will, and propagated from the brain to the muſcles; an opinion which has been adopted by Dr. HARTLEY,‡ Dr. BRYAN ROBINSON, and others; and which has great appearance of probability;——or whether it be owing ſolely, as ſome have advanced, to the peculiar ſtructure,

is excited, and the limbs of animals are moved by the power of the will, the vibrations of this ſpirit being propagated along the ſolid capillaments of the nerves from the external organs of the ſenſes to the brain, and from the brain into the muſcles. But theſe matters cannot be explained in a few words, nor have we a ſufficient number of experiments for the exact determination, and proof, of the laws by what this ſpirit acts."——See the ſame opinion propoſed in the *queries* at the end of his *Opticks*. p. 328. *query* 23, & 24.

‡ See HARTLEY *on Man*. Vol. I. Prop. 5. p. 13—34. Where much pains is taken to prove, and illuſtrate, this theory.

ſtructure, as a ſpiral, or other form, of the ſmalleſt nervous filaments themſelves.

BUT, whatever be the nature of the nervous power, if we allow the ſoul to be an immaterial ſubſtance, as philoſophers have very generally thought they had the beſt, and ſureſt, ground for believing it to be,——in which, according to CICERO, || there is nothing that can give it any material property whatever,——it ſeems highly probable, that the body and ſoul, a material and immaterial ſubſtance, cannot phyſically act upon each other; and that their mutual effects are produced according to certain fixed and arbitrary laws of reciprocal influence, by which, and by which only, they were united to each other at firſt by the great creator of the univerſe:——that, therefore, it cannot with ſuch ſtrict propriety be ſaid that they act upon

|| "Nihil admixtum, nihil concretum, nihil copulatum, nihil coagmentatum, nihil duplex."——*Tuſculan. Diſputat.* Lib. 1. c. 29.

on each other; as that certain ſtates, and movements, of the body, are the *exciting*, or *occaſional cauſes*, of certain determinate feelings, and volitions, of the mind; and that certain feelings, and volitions, of the mind, are in like manner the *exciting*, or *occaſional cauſes*, of certain correſponding ſtates, and movements, of the body. It is our buſineſs to diſcover what theſe ſtates and movements, and their correſponding feelings and volitions, or, in other words, what theſe laws of union are. And it is with this view, that I have here attempted to point out, though it muſt be confeſſed but curſorily, and ſuperficially, thoſe mechanical, muſcular, and vaſcular ſtates of the active, and ſentient parts of the body, which in a great meaſure correſpond with, and are either the cauſes, or effects, of the various ſtates of the mind; and what in general the correſponding ſtates of the mind and body are.

With the ſame view I ſhall now proceed to ſay ſomething more expreſsly concerning the *nervous power*, and its laws of acting;

acting; ſince this power, whatever it is, re-reſiding in the brain, ſpinal marrow, and nerves, is the immediate inſtrument of communication between our material and immaterial part, and the very ſource and beginning, if any thing can to be ſaid to be the beginning where all the parts and functions have a mutual dependence on each other, of animal life, ſenſe, and motion; and is the direct, and active cauſe, by which every function of an animated body is kept up, from the moment of ſeperation from the parent animal, till the final ſolution of the material and immaterial principle, at the period of this mortal life. I ſhall cloſe this ſubject by enumerating a few particular, and moſt of them well known, facts, which may ſerve farther to illuſtrate the mutual influence of the mind and body on each other.

THE eſſential, and diſtinguiſhing properties common to all, or at leaſt to the more perfect animals, are LIFE, SPONTANEOUS MOTION, and SENSATION.

I ſay nothing at preſent of the higher powers of the mind; as the conſideration of them is not neceſſary for the underſtanding of what is immediately to follow; and as it is a diſputable point whether they belong at all to ſome animals; and whether more than a very ſmall portion of them be poſſeſſed by any other animal than man.

LIFE, or automatic and involuntary motion, depends upon IRRITABILITY;—*ſpontaneous motion* upon VOLITION,——and *ſenſation* upon the PERCEPTIVE POWER of the mind,——volition moving the body, and the perceptive power of the mind receiving ſenſation, through the mediation of irritability.

OF theſe ſources, therefore, of life, motion, and ſenſation,——*volition* and *perception* are MENTAL POWERS; and *irritability* alone is a BODILY ONE.

I here employ the term *life* in a very narrow, and reſtricted ſenſe; and not only confine it to the energies of the animal kingdom, but

but to thoſe motions of the animal machine which are carried on independently of the mind. This may ſeem, on a ſlight view, to have a near reſemblance to what is commonly called *vegetable life*; I apprehend, however, that there is an eſſential difference; and that, though there may be no impropriety, provided this difference be kept in view, in denominating the one *animal*, and the other *vegetable* life, it might, perhaps, be ſtill better, while the former is, by way of eminence, ſtiled *life*, to diſtinguiſh the latter from it ſimply by the name of *vegetation*; from which it appears to differ in a variety of reſpects; particularly in its dependence upon the peculiar apparatus of the *nervous*, of the *muſcular*, and of the *vaſcular*, ſyſtems; the *firſt* of which is the ſource of irritability, the *ſecond*, by the property of contraction which it poſſeſſes in an extraordinary degree, is the immediate inſtrument of motion, and the *laſt* by its appropriate ſtructure, and the aid of the ſame contracting power, is the means of keeping up an inceſſant circulation of the animal fluids,

the

the heart, by its contractions, impelling the blood through the larger arteries, and the capillary veſſels, by their oſcillatory motions, continuing the circulation begun by the heart. For nothing like *nerves*, much leſs like the whole nervous ſyſtem of animals, has been diſcovered in vegetables. And, ſince they afford no appearance of *muſcles*, we have no right to conclude that the very few inſtances of their motion, which ſeem to have ſome reſemblance to muſcular motion, ſuch as the ſhrinking of the leaves of the ſenſitive plant,§ on being touched, the extraordinary motions of the moving plant,¶ the cloſing, or other change of poſition, of the leaves of ſome plants, and the drooping of the flowers of others, in the night time, termed by LINNÆUS† their ſleeping;‡ and the opening and

§ The *mimoſa ſenſitiva* of LINNÆUS, alſo the *mimoſa viva*, and ſome others of the ſame genus.

¶ Hedyſarum movens.

† See *Diſſertation* LXIV. entitled *Somnus Plantarum*, in his *Amœnitates Academicæ*, Volum. IV. p. 333.

‡ Somnus.

and ſhutting of the flowers of certain plants at ſtated hours, which he calls their *watchings*,‡ —— are really the motions of a muſcular ſyſtem; eſpecially as the texture of vegetables is uſually too rigid to give countenance to ſuch a ſuppoſition; and as, in all the known inſtances, their motion ſeems to be effected by the external, or internal, operation, of certain material ſubſtances, as light, heat, and the fluids moving in their veſſels, on their peculiar ſtructure. Nor do we find in vegetables any thing bearing much reſemblance to the *circulation of the blood* in animals; the motion of their fluids appearing to be begun by means of an attractive power, and not by any repelling force; to be carried on through their whole vaſcular ſyſtem, if it may be ſo termed, by the uniform and continued exertion of the ſame power in every part; to be without any apparent vaſcular contraction; to proceed

‡ Vigiliæ.

ceed in a perpetual progreſſion; and to be chiefly influenced by the ſeaſons, and by the temperature of the air.——It muſt, notwithſtanding, be confeſſed, that in *vegetation* there is a power ſomething analogous to that of animal *life*, and *irritability*; though greatly inferior in degree; and, probably, as different in kind, as are the ſeveral attractions of gravitation, coheſion, magnetiſm, electricity, and the elective attractions of the chemiſts.

Irritability has its ſeat in the brain, ſpinal marrow, and nerves; and its origin in the brain. It depends a great deal, if not altogether, upon their proper texture; is the immediate cauſe of muſcular motion, both voluntary and involuntary; and the means of conveying ſenſation to the ſoul.——That irritability depends, in a great meaſure, upon the texture of the nerves, and varies as that varies, appears ſo evident, as ſcarcely to need a proof: ſince it is notorious, that wherever a nerve is injured, or its texture any way altered, either by compreſſion, or otherwiſe; whether at its origin in the brain, or

or ſpinal marrow, in its courſe, or in the part to which it is diſtributed; the irritability of the nerve below the injury, or alteration of its texture, and of the parts which it ſupplies, is, according to the nature of the change, either increaſed, diminiſhed, or deſtroyed: as we ſee, to mention a few inſtances, in the increaſe, or diminution, of ſtrength, and ſenſibility, according to the ſtate of the brain, in Inſanity; in their diminution, or deſtruction, in palſies; and in their increaſe in conſequence of that change of texture in the extremities of the nerves which accompanies inflammation. Nor does it make any material difference, in this reſpect, whether the medullary ſubſtance of the nerves conſiſt of ſolid capillaments, along which vibrations are tranſmitted; or of hollow cylinders, containing an exquiſitely elaſtic nervous fluid, capable of receiving and conveying vibrations; or be of any other appropriate, and neceſſary conſtruction.

WHATEVER motions are excited by the

the mind, in conſequence of volition, are denominated voluntary, or *ſpontaneous motions*: for as to thoſe muſcular, or vaſcular, actions, which are excited by the appetites and paſſions, without any expreſs act of the will, they being *neceſſary*, do not come within the preſent deſcription.

Volition, therefore, ſo far as it relates to the immediate operation of the ſoul upon the body, is the exciting cauſe of every determinate action of certain muſcles of the body, which being obedient to the will, are therefore ſaid to be capable of voluntary motion.

Senſation is the *mental perception* of the impreſſions of ſenſible objects, whether external, or internal, upon the body; which, being made in a variety of ways, according to the differences in the nature, and action, of the objects themſelves, and of the organs of ſenſe to which they are applied, are conveyed to the mind by the power, or irritability, of the nerves.

Life

Life is carried on, *ſpontaneous motion* is produced, and *ſenſation* is communicated, by *ſtimuli*, or *exciting cauſes*, of various kinds, acting upon the irritability of the nerves. The operation of theſe cauſes may not improperly be called *excitement*, becauſe whatever be their nature, or mode of action, the effects which they give riſe to are never merely mechanical.

THESE ſtimuli are either CORPOREAL or MENTAL.——The corporeal may be divided into two kinds, ACCIDENTAL and NATURAL; and, of theſe, the accidental may be ſubdivided into *mechanical*, *acrimonious*, and *ſpecific*. The mental may be divided into *neceſſary*, and *voluntary*.

WE may, reckon therefore, SIX *different kinds of* STIMULI, or exciting cauſes; the *mechanical*, *acrimonious*, and *ſpecific*, ——the *natural*, ——and the *neceſſary*, and *voluntary*.

Mechanical ſtimuli are thoſe which act by their bulk, figure, hardneſs, or in ſhort, by any mechanical property whatever: as any hard

hard ſubſtance, whether large or ſmall, acting with force, *externally*, and bruiſing, or lacerating, the body ; a knife, ſword, or other edged, or pointed, inſtrument, wounding, or piercing it ; any extraneous ſubſtance, or preternatural tumour, compreſſing, loading, or any way injuring by its bulk the neighbouring parts ; or any hard, and ſharp, ſubſtance, contained *within the body*, and injuring it internally, as a ſtone in the bladder cutting, and abrading, by the action of its rough and angular ſurface, its internal coats.

Acrimonious ſtimuli act upon the body, not by their general and mechanical, but by their peculiar and ſenſible properties , as all bitter, aſtringent, nauſeous, ſweet, ſour, ſalt, pungent, cauſtic, ignited, and many other ſubſtances, whoſe action ſeems to depend upon the ſenſible qualities which manifeſt themſelves to the taſte, or upon chemical attraction.

Specific ſtimuli, ſuch as are moſt of the vegetable poiſons, often occaſion the moſt violent

lent effects without poſſeſſing any very conſpicuous ſenſible qualities, and always without poſſeſſing ſuch as appear to be in any degree adequate to the effects which they produce.

Natural ſtimuli are thoſe without which the eſſential offices of animal life could not go on: as the ſtimulus of the blood to the heart and arteries, and to the organs of ſecretion; the ſtimulus of the motion of the air on the drum of the ear, and that of light on the expanſion of the optic nerve, in order to excite in the mind the ſenſations of ſounds, and images.

Neceſſary ſtimuli are certain ſtates of the mind which produce certain determinate changes in the body, without any volition of the mind, that ſuch changes ſhould take place. Theſe ſtates are chiefly connected with the appetites and paſſions; and comprehend every idea, or notion, which makes either an agreeable, or a diſagreeable, impreſſion upon the mind.

Voluntary

Voluntary ſtimuli are ſuch acts of the will as have the power of exciting thoſe correſponding motions of the body, which, from the cauſe of their excitement, are called voluntary motions.

As the *mental ſtimuli* act upon the body, and the *bodily ſtimuli* upon the mind, through the mediation of the power, or irritability, of the nerves; their effects will vary, as this power of the nerves varies; will improve as it improves, decline as it declines, and ceaſe as it ceaſes; and as the variations of irritability are partial, or univerſal, ſo will thoſe of bodily influence on the mind, or of mental influence on the body, be partial, or univerſal.

Irritability may be *diminiſhed* throughout the body, by a diſordered ſtate of the brain, or of the tones; or in any particular part, by a diſordered ſtate of the nerves going to that part, or of the part itſelf. Any tumour of the coats of a nerve, or of the ſurrounding parts, which ſhall compreſs its medullary ſubſtance, may be ſufficient to diminiſh

niſh, or deſtroy, both ſenſation and motion in every part to which the injured nerve is diſtributed. A diſeaſe of the medullary ſubſtance of a nerve may produce the ſame effects. Sir ISAAC NEWTON* ſuppoſes that the nervous capillaments are pellucid, and that obſtructions injuring their pellucidity, and by that means interrupting the vibrating motions of the æthereal medium, create palſies. It ſeems, alſo, probable, that the power of the nerves may ſometimes be *increaſed* by a diſordered ſtate of the brain; ſince it frequently happens, in caſes of Inſanity, that weakneſs and dejection are ſuddenly ſucceeded by vigour and chearfulneſs, in conſequence of a ſudden, and conſpicuous change, in the ſtate of the brain; as is ſeen in the tranſitions from *hypochondriacal*, and from ſeveral of the ſpecies of *pathetic*, to *maniacal*, *incoherent*, or *phrenitic* Inſanity: and in the ſame tranſitions, from

* *Queries* at the end of his *Opticks*. Query 24. p. 328.

from languor, and diſtreſs, to the oppoſite extremes, in any of the ſpecies of *ideal Inſanity*.

But granting that the brain and nerves are in a ſound, and healthful condition; their power may, notwithſtanding, be improved by exerciſe, or injured by diſuſe. Motion, and ſenſation, depend upon irritability; and that they may, in ſome degree, repay the obligation they are under, they are both capable, by the exerciſe of frequent and habitual excitement, of improving the power to which they are indebted for their exiſtence; and, in ſo doing, they ſtill farther improve themſelves. In this improvement of motion, ſenſation, and irritability, by exerciſe, the mind is a principal inſtrument: ſince the frequent exerciſe of motion muſt depend upon volition; and of ſenſation upon attention of the mind to the movements, or vibrations, excited by the action of external objects on the irritability of the nerves: and thus volition and attention, by repeatedly exciting motion, and perceiving

perceiving ſenſation, of the ſame, or of ſimilar kinds, acquire a facility of managing, that is improve, the nervous power; the one with eaſe directing the body, and the other with equal eaſe receiving from it the impreſſions of ſenſible objects: in other words, accuracy and quickneſs of motion, and accuracy and quickneſs of ſenſation, are both to be acquired by attention, and exerciſe.

IRRITABILITY, ſenſation, and motion, may, on the other hand, be diminiſhed by *diſuſe*; whether it be owing to any accidental impediment, as inconvenience of ſituation and circumſtances, or bodily diſorder, rendering the exerciſe of them difficult or impracticable; or to an habitual indolence of body and mind; or to that inactivity, and want of attention to external objects, which cannot eaſily be avoided, when the mind is intenſely engaged in the contemplation of ſome intereſting ſubject.

IRRITABILITY may likewiſe be improved,

improved or injured, either generally, or partially, by the neceſſary influence of the paſſions; thoſe which are lively, or vigorous, increaſing, and thoſe which are depreſſing, or puſilanimous, diminiſhing its ſuſceptibility, and influence.

And the diminution, or the increaſe, of irritability, may be either tranſient, or permanent, according to the nature of the cauſe from which theſe changes take their riſe.

This nervous power, or property, of irritability, capable of acting without influencing, or being influenced by the mind; without the mediation either of ſenſation, or volition; is ſufficient of itſelf for the performance of thoſe vital, and natural actions, which can be performed without the agency of any of the voluntary muſcles; as the circulation of the blood, the ſecretions, abſorption, perſpiration, and the like. When excited, therefore, by the natural ſtimuli, only to a certain degree, no ſenſation is produced; moſt

moſt of the vital and animal actions being capable of proceeding without it. But when excited by theſe in an unuſual, or by any of the other corporeal ſtimuli in a greater degree, it acts upon the mind, and ſenſation is excited of ſuch a kind as correſponds to the cauſe of its excitement: and this ſenſation gives riſe to volition; a reaction of the mind on the nervous power; and the generation of voluntary motion; if the nature of the cauſe be ſuch as requires it. Irritability, however, alone, without ſenſation, is not ſufficient for the carrying on of all the vital and natural actions. Some of the functions, as thoſe of breathing, and of voiding urine and ſtool, cannot be performed without the aid of the voluntary motion of certain muſcles, and, therefore, not without ſenſation. In theſe caſes, it is ſo contrived by the wiſe author of our frame, that the natural ſtimulus belonging to the part, ſhall, by accumulation, become ſo conſiderable as to produce a degree of irritation capable of exciting ſenſation, and that conſequent exertion of the voluntary action of the requiſite

requiſite muſcles, without which there could be no performance of thoſe neceſſary functions.

THAT the nervous power, or irritability, in this manner gives life to the body, and is the means by which all the vital and involuntary actions are carried on, independently of the mind, ſeems to be ſufficiently proved by many of the numerous experiments made, or referred to, by KAAU BOERHAAVE,¶ WHYTT,‡ and HALLER ;‖ which not only ſhow that the contractions of the heart, of the

¶ *Impet. Facient.* § 295. 296. 330. 331. 332.

‡ *Of the vital and other involuntary motions of animals.* Sect. XIV. Works. p. 183——207.——Alſo *Obſervations on the ſenſibility and irritability of the parts of men and other animals.* Sect. II. Works. p. 283—292. and Sect. IV. § IV. Works. p. 302.

‖ *Element. Phyſiologiæ.* Lib. X. Sect. VII. § XXXI. Tom. IV. p. 337. & Lib. XI. Sect. II. § IV —— § XVI. Tom. IV. p. 446. &c.

the inteſtines, and of the muſcles in general, are capable of exerting themſelves, on the application of ſtimuli, always for ſome time, and frequently for a long time, after their connection with the brain has been cut off: but afford ſome ſtriking inſtances of the continuance of the vital and involuntary actions, in different animals, and under different circumſtances, for days, weeks, and even months, after their heads have been ſeperated from their bodies, or the brain has been entirely deſtroyed.

NOTWITHSTANDING theſe facts, the late learned and very ingenious phyſiologiſt, Dr. WHYTT, endeavoured to account for all the vital, and involuntary motions, from ſenſation, produced in the mind by the irritation of ſtimuli, and exciting it to perform theſe motions. In conſequence of this doctrine, he not only found it exceedingly difficult, on many occaſions, to keep clear of the Stahlian theory, which he diſapproved, and which makes the mind a *rational agent* in the

the affair, and even the original *fabricator* * of the body which it inhabits, and rationally, and providentially, governs; but was reduced to the diſagreeable dilemma of either making ſenſation itſelf independent of the ſoul, or of aſſerting that an immaterial ſubſtance, ſuch as he believed the ſoul to be, is extended and diviſible. Not to inſiſt upon the manifeſt abſurdity of ſuppoſing that ſenſation is the immediate

* "Eſſe autem *animam rationalem* in hoc negotio cauſam efficientem, vel inde liquet, quod generationis opus maximi momenti res ſit, quæ principium ſibi poſtulat, non materiale, ſed intelligens, a primo conceptionis momento formationem & ſtructuram proſequendo, materiam extendendo, partes formando, formatas nutriendo, ut tam ſingularium partium, quam corporis totius juſta conformatio ac ſtructura inde reſultet, deſtinatis finibus undiquaque commoda."——JUNCKERI *Conſpect. Phyſiologiæ & Hygieines, &c. ad Dogmata Stahliana potiſſimum adornati.* Tab. VI. p. 143.

" *It will appear obvious that the* rational ſoul *muſt be the immediate agent in the affair of generation, if we conſider that this buſineſs is a matter of the utmoſt moment, and requires, not a material, but an intelligent principle, which, from the very moment of conception, may be employed in ſo regulating the formation and conſtruction of the animal, ſo modelling its various parts, and nouriſhing them when modelled, that the reſult of its operations may be ſuch a finiſhed form and ſtructure, as well of the whole body, as of its ſeveral parts, as ſhall be perfectly adapted to fulfil their reſpective deſtinations.*"

immediate cauſe, the *ſine qua non* of all the *involuntary*, as well as of the voluntary actions; ſince, the mind not being conſcious that any ſenſation is concerned in the excitement of many of the automatic motions of the body, it follows that, if it really does take place, *ſenſation* may not only be obvious and perceptible, but *latent* and *unperceived.*

THE ingenious theory of Dr. STUART, that the extremity of every nerve is a diſtinct, and perfect brain, belonging to the organ, or part in which it terminates;† and that the ſoul is preſent, and perceives, and acts, in every part of the body at the ſame inſtant of time;‖ is liable to ſimilar objections.

THESE difficulties, and inconſiſtencies, are

† *Diſſertat. de Structura & Motu Muſculari.* p. 24.

‖ Ibid. p. 30 and 35.

are eaſily avoided, by granting that, though ſenſation is in many caſes concerned, as a mental ſtimulus, in exciting motions in the body, both voluntary and involuntary, yet it acts but a ſecondary part; and is in every reſpect dependent on a primary power, without which it could neither act, nor exiſt:—— that the nerves are poſſeſſed of this primary power; giving life to the body; being irritable, and capable of acting without the interference, or influence, of the mind; and being the inſtruments of communication between the mind and body:——that material objects may act upon this power of the nerves in ſuch a manner as not to excite ſenſation, and yet excite involuntary, or automatic, motion; and that by acting more forcibly, or, what amounts to the ſame thing, on parts better adapted for the conveying of it, they may excite ſenſation:——that the mind is capable of increaſing, or diminiſhing, the activity of this power; and of thus quickening, or deadening, its own ſenſations, on the

one

one hand; or of improving, or injuring, and even almoſt deſtroying, the activity of the muſcles, on the other; by exertion and exerciſe, or by inattention and diſuſe. In this view of the matter, we may readily perceive how the mind can give tone to the body, and the body give tone to the mind;——how the mind can enliven the irritability of the body, and the body quicken the ſenſibility of the mind;——and how both are apt to be invigorated or weakened, elevated or depreſſed, together.

As we cannot allow that *ſenſation* is neceſſarily concerned in every motion, whether voluntary or involuntary, of an animal body, and that the irritability of the nerves cannot be put into action, in the ſmalleſt degree, without exciting *it*:——ſo neither can we ſuppoſe, with Dr. HALLER, that *irritability* is a property of the *animal gluten*;¶——ſince ſuch

¶ *Element. Phyſiolog.* Lib. XI. Sect. II, § XII. Tom. 4, p. 464.

ſuch an hypotheſis is not only inconſiſtent with the above theory ; but, as has been clearly proved by Dr. WHYTT's experiments, and reaſonings, is incapable of accounting for the phœnomena of irritability, which evidently point out the nerves as the ſource of its exiſtence.

AS irritability is put into motion by the action of *ſtimuli*, either *mental*, or *corporeal*, ſo its ſpecific operations on the mind and body ſeem to conſiſt in certain ſpecific vibrations of the medullary ſubſtance, or of ſome appropriate fluid, of the nerves, of the nature, and infinitely various modifications of which, we may poſſibly, for ever remain ignorant. Nor, indeed, does a minute inveſtigation of its mode of action appear to be of much real importance to the practical phyſician ; to whom it may anſwer every uſeful purpoſe to have a general knowledge of ſome of the laws relative to the mutual influence of the mind and body on each other, and an intimate acquaintance with the particular facts on

on which ſuch knowledge depends. I ſhall now proceed to enumerate a few of theſe particular facts.

THE *mind is affected in conſequence of a bodily affection*, by whatever agent, whether external or internal, acts upon the body with a certain degree of force, which will be greater or leſs in proportion to the irritability, and office, of the organ acted upon, and cauſes ſuch a change in the extremities of the nerves of the part concerned, as is ſufficient to excite a ſenſation of feeling. It is more or leſs violently affected by ſuch ſenſation, in proportion as it riſes or falls in the ſcale of *corporeal perceptions*, if they may be ſo termed, from the loweſt degree of *ſimple feeling*, to the very ſummit, and extreme, of exquiſite *pleaſure*, or agonizing *pain*. Theſe ſeveral kinds of ſenſation are the only means by which the body can act upon the mind; and may any of them be excited in any of the organs of ſenſe.

Simple feeling has but little immediate influence on the happineſs of our animal life; but

on

on the ſenſations of *pleaſure* or *pain*, our happineſs or miſery greatly depends. The *latter* is excited either by a diſordered ſtate of the body, or by whatever in its healthful ſtate, acts violently upon it; and the *former* by ſuch impreſſions of ſenſible objects as produce lively, but not violent ſenſations; and *both* of them are a good deal influenced by contraſt.

Pleaſurable ſenſations may be excited in the *ſenſe of feeling*, by gentle friction; tepid bathing; grateful warmth, eſpecially after being expoſed to cold, in winter; cooling and refreſhing breezes, in the ſhade, tempering the heat of ſummer; and, not to mention a great variety of other cauſes, by the moderate and wholeſome gratification of any of the appetites.

Senſations of the *painful kind* may ariſe from a wound, a burn, a bruiſe, a bliſter, intenſe heat, ſevere cold, hunger, thirſt, ſpaſm, and a thouſand other more or leſs violent cauſes.

Pleaſure,

Pleaſure, or *pain*, may in like manner be excited by the objects of the other ſenſes, as ſeeing, hearing, ſmelling, or taſting.

Depraved, or *peculiar* ſenſations, may be communicated to the mind, by means of a depraved or peculiar ſtate of body; as a ſenſe of heat, or cold, in nervous people, from an increaſe, or diminution, of the vibratory motions of the ſmall veſſels.

WINE, opium, antiſpaſmodic, tonic, ſtimulant, and other cordial medicines, and nouriſhing diet, by relaxing ſpaſm, eaſing pain, and *invigorating the tone* of the body, produce *ſerenity*, and *chearfulneſs*.

BUT whatever *weakens the body*, whether by exhauſting, impoveriſhing, and otherwiſe depraving the circulating fluids; or by defrauding the blood of its due ſupply of freſh, and wholeſome, chyle, as happens in ſome diſorders of the firſt paſſages; tends to produce *langour*, *dejection*, and *melancholy*.

INSTANCES of the reciprocal *influence*, whether

whether voluntary or involuntary, *of the mind on the body*, are equally numerous, and obvious.

THE moſt conſpicuous example of the *voluntary influence* of the mind on the body, is that general power which it poſſeſſes over all the muſcles which are ſubſervient to voluntary motion: a power which is natural, and with which every animal is born; but which is very imperfect, and particularly in the human ſpecies, till improved by exerciſe, experience, and habit. A child, when it firſt comes into the world, can, it is true, move its limbs, but their motions are irregular, and without aim, and ſeem more like the effects of irritation, than of volition. After a while it attempts to move them in a particular direction, with a view to the obtaining of ſome end by the performance of ſome determinate action; as when it endeavours to ſeize any thing by graſping at it; but the difficulty with which, after numerous trials, it accompliſhes its purpoſe, ſhows how imperfect

perfect at firſt is its power over the muſcles of voluntary motion: and it is not till after a long time, and much practice, that it acquires a free and ready uſe of them. Even men have a more or leſs perfect, and accurate, uſe of the voluntary muſcles, in proportion to the diligence which they have exerted in exerciſing them; and can move their limbs with more or leſs dexterity and grace, in an almoſt endleſs variety of gradations, from the uncouth and clumſy ruſtic, whoſe motions are unweildy and inelegant in the extreme, to the moſt accompliſhed in thoſe elegant arts which require the niceſt, and trueſt movements of the body, ſuch as we admire in the firſt-rate dancers on the ſtage, or in the moſt wonderful performers on the violin, harpſichord, or any other difficult muſical inſtrument.

THIS improved power over the muſcles may again decline, or be deſtroyed, by an accidental bodily diſorder, as a paralytic affection;

fection; or by the infirmity of old age, which naturally impairs every part of the nicely conſtructed animal machine; or by diſuſe, in conſequence of which many of the delicate and complicated motions, requiſite to a ſkilful performance in any exquiſite art, which, though once acquired, has been long neglected, may be greatly injured, or entirely loſt.

We have even inſtances of muſcles over which the mind ſeems never to have acquired its intended power; as the muſcles of the ear, which the early, and conſtant application, of ſtrait bandages to the heads of infants, commonly renders ſo entirely uſeleſs, that a man who can move his ears is looked upon as a kind of monſter.¶

The mind can, by a voluntary exertion of its power, *reſtrain* the motions which would naturally ariſe from *irritation*, wherever

¶ Vide Halleri *Element. Phyſiolog.* Lib. XV. Sect. I. § 4, & 5. Tom. V. p. 190.

ver any of the voluntary muſcles are neceſſarily, and principally, concerned in thoſe motions; provided that the irrtitation does not occaſion ſuch violent ſenſations as to force them into action, and thus to render them, which is ſometimes the caſe, no longer voluntary, but neceſſary, agents. By this voluntary exertion the mind can, to a certain degree, reſtrain coughing, ſneezing, yawning, the hiccup, and even breathing; it can prevent ſhivering from a ſenſe of cold; and it can check the diſcharges of urine and ſtool.

THE mind may, alſo, by long uſe and habit, acquire ſuch a facility of certain voluntary actions, as often to perform them without being conſcious of ſo doing.——Of this we have examples in the uniform motions of the muſcles of the eye; in the adaptation of the chryſtalline lens, and pupil, for the purpoſe of diſtinct viſion, to the different diſtances of objects; in the exertion of the muſcles, in ſupporting the body in an erect poſture, which

which would otherwiſe drop to the ground, as it ſometimes does on the ſudden ſtroke of a palſy, and is in danger of doing from drowſineſs after long watching; in a like exertion in holding up the head, which, without it, would drop upon the breaſt, as it does when we ſleep in a ſitting poſture, without a ſupport for the head; in the axactly conſpiring motions of a great number of muſcles, ſo as to attain the proper end which the mind has in view, in walking, running, jumping, ſwimming, dancing, fencing, and in the performance of an immenſe variety of other acquired movements in the exerciſe of the uſeful, or elegant, arts.

BUT beſides the voluntary, there are other motions dependent on the mind, which are *involuntary*; and are either connected with *ſenſation*, with the *appetites*, or with the *paſſions*.

Direct ſenſation is an effect of the body upon the mind. When excited in any one part of the

the body, in ſuch a manner, or degree, as to cauſe pleaſure or pain, it generally more or leſs affects the whole, and not unfrequently produces conſpicuous effects in ſome diſtant part. This diffuſion of the effects of local pleaſure or pain, which has been termed ſympathy, has been attributed to the mediation of the mind. But it may be doubted, in many caſes, whether the mind has any agency in the affair, and whether theſe effects would not equally take place without ſenſation, ſuppoſing it poſſible that the ſame degree of excitement of the irritability of the nerves could exiſt without producing it. Indeed I muſt own that I am ſtrongly inclined to ſuſpect, that ſenſation is, on moſt of theſe occaſions, only a concomitant effect produced on the mind, together with many others which are merely corporeal; which ariſe from the excitement of the nervous power of irritability in a certain manner, and to a certain degree; and are no way dependent on the ſenſation which accompanies them.

A ſenſe of pain will ſtop many motions ariſing from irritation, or a leſs ſenſe of pain.——Bliſters will allay ſpaſms, appeaſe the irritation of a cough, and abate inflammation and delirium.——A ſtitch in the ſide, accidentally occaſioned by an expanſion of the cheſt to ſneeze, or yawn, will often inſtantly check, and prevent, the performance of thoſe operations.

WHETHER theſe effects have really any dependence upon the mind; and, if they have, how far they are neceſſary, or voluntary; I ſhall not here enquire.

THE recollection of ſenſations formerly experienced, will ſometimes excite the ſame, or concomitant ſenſations, or produce other diſagreeable effects upon the body.——The recollection of the diſagreeable ſenſation in the teeth, termed ſetting them on edge, excited by eating unripe, auſtere, and acid fruits; by the very acute, or grating ſounds, of rubbing or cutting a cork, or filing a ſaw;

or

or by paring the nails to the quick, or rubbing the ends of the fingers, with the nails ſo pared, upon velvet, and other ſubſtances; and the recollection of the ſenſation of tickling; will in certain ſtates of the nerves, and in people of irritable habits, inſtantly renew thoſe ſenſations.——The recollection of the pains ariſing from ſpaſmodic affections, in very delicate nervous and hypochondriacal people, is apt to revive the ſame painful ſpaſms.——The recollection of a nauſeous ſenſation in the ſtomach, or of vomiting, will readily renew the nauſea, or vomiting; ——and the ſight, or the mere mental conception, of any thing filthy, and diſguſting, will often produce the ſame effects.——The idea, ſmell, or ſight, of a vomit, or purge, of which a perſon has frequently made uſe, has been known to excite vomiting, or purging.†

——The

† TURNER in his *Treatiſe of Diſeaſes incident to the Skin*, gives an account of a young gentleman, his patient, who inſtead of taking an emetic bolus to which he had contracted an abhorrence, in conſequence of the violence of its former operation, uſed to vomit himſelf merely by looking at it. p. 165.

——The ſight of a perſon yawning, or the mere recollection of yawning, will almoſt infallibly produce an irreſiſtible inclination to yawn.——And the breaſt of a nurſe will begin to give milk when the infant which ſhe has been accuſtomed to nouriſh is brought near it.

Nor are the involuntary effects of the mind on the body, which are connected with *appetite*, leſs numerous, or leſs conſiderable. They are common, and obvious, and do not need to be enumerated. An example or two will be ſufficient.

The lively idea of grateful food, or drink, whether we actually ſee it, or only talk, or think of it, will excite a flow of ſaliva into the mouth; and that ſometimes with ſuch violence, and impatience, as to ſpirt it out to a diſtance, and to cauſe conſiderable pain in the ſalivary ducts,——eſpecially if, through attention of mind to ſtudy, or reading, a long neglect of moving the jaws, or any other means, none has flowed through them for a conſiderable time.

IDEAS of the ſame kind will frequently excite the appetite of hunger, or of thirſt, which was not perceived before.

AND here it may be proper to remark, that all the *appetites* are eminent examples of the influence of the body on the mind, as well as of the mind on the body:——for certain changes being produced on the body, by their proper cauſes, excite, by acting on the irritability of the nerves, certain ſenſations in the mind of animal deſire, which becomes a powerful motive to impel it to procure, by means of the proper objects, their peculiar, and natural, gratification:——and, on the other hand, the idea of thoſe objects ariſing accidentally in the mind, will, as has juſt been obſerved, excite the correſponding bodily changes, and produce the real animal deſire.

IT may, alſo, be worth remarking, that the appetites afford a very ſtriking illuſtration of

of the eſſential difference between the bodily power of irritability, and the mental one of ſenſation.——Irritability may have produced all thoſe changes in the body, which ſhould excite the appetite of hunger; but the mind, otherwiſe engaged, may not be at leiſure to attend to thoſe changes, and therefore may not feel an inclination to eat. That ſtate of the body may actually exiſt, which ought to excite the appetite of thirſt; but the mind, attentive to whatever deeply engages it, may not be ſenſible of a deſire to drink. That ſtate of the body may have taken place which ſhould naturally produce the appetite of love; but the mind, abſorbed in the contemplation of very different objects, may be no way affected by that bodily ſtate; and may, therefore, never feel a deſire which, however important to the multiplication, and continuance, of the ſpecies, is not neceſſary to the preſervation, or well being, of the individual, and, for that reaſon, leſs importunate in its ſolicitations than the neceſſary appetites of *hunger* and *thirſt*. They can ſeldom be long unattended

unattended to; but there are circumſtances and ſtates of mind, in which love, as an appetite, may never have been experienced, or, having been experienced, may be almoſt forgotten.

I have already obſerved that it is in the power of the mind to increaſe or diminiſh irritability. Of its diminiſhing irritability the effect, abovementioned, of its cloſe attention to objects of a different nature, on the natural appetites, is partly an inſtance; as are the effects of its attention to the objects of ſenſe and appetite, inſtances of its increaſing it. For though irritability be ſo diſtinct a thing from ſenſation, and be very far from being univerſally and neceſſarily connected with it; and though it may of itſelf, and independently of ſenſation, produce ſuch ſtates of body as are requiſite to generate the appetites by exciting thoſe ſenſual perceptions which belong to them; yet as the exerciſe of ſenſation increaſes, and the diſuſe of it diminiſhes, the force

force and activity of irritability, ſo irritability generates, and unfolds the appetites, and brings them into action, more ſlowly, and with leſs certainty, frequency, and urgency, in men of contemplation, and virtue; whoſe thoughts are otherwiſe, and better engaged; than in the unthinking, and ſenſual, whoſe minds are more expoſed to the ſolicitations, if not ſolely, and perpetually, employed about the pleaſure, and gratification, of the appetites; and is in the one caſe rendered torpid by too little, and in the other it becomes morbidly active by too much excitement.

But of the power of the mind in diminiſhing, or increaſing, irritability, we have in no inſtance, perhaps, a more diſtinct, and evident proof, than in its influence on the action of the coats and veſſels of the inteſtines, by the excitement, or repreſſion, of which, it can excite, or repreſs, the evacuation by ſtool. For as, when agitated by certain affections, it can, in many perſons, by a conſtitutional

ſtitutional ſympathy, increaſe the irritability of the coats, and veſſels, of the inteſtines, and excite ſpontaneous purging; ſo when its attention is ſtrongly engaged by ſtudy; compoſition; the forcible intruſion of certain notions and images, in the delirium of a fever, or of madneſs; or by any other cauſe; the irritability of thoſe parts, and indeed, of the body in general, may be ſo diminiſhed, by the obſtruction of ſuch of the functions of the brain, as are neceſſary to the perfection of the nerves, and to the generation and accumulation of that, whatever it be, on which the power of irritability depends, as to leſſen, and even deſtroy, the action of ſtimuli, and conſequently to check, or prevent, the operation of a purge.

It muſt, indeed, be confeſſed that the diminution of irritability, though the principal, is not the ſole cauſe, of the difficulty with which purges operate in inſane perſons, and others, where the brain is much affected, and its operations are diſturbed; ſince it is often,

often, in part, owing to a voluntary reſiſtance to the ſenſation which ſhould excite that evacuation; and which is neceſſary to the production of the voluntary act, which is uſually required for the expulſion of the fæces. For though ſometimes, in diſeaſes, the ſtools come away involuntarily, and without the conſciouſneſs of the patient; yet when a purge operates againſt the will, this effect ſeems to be owing in a great meaſure to the painful ſenſation which it excites; which partly overcomes the reluctancy of the will; and partly creates ſpaſmodic motions in the rectum, and other parts concerned, which the mind cannot reſtrain.

THE *paſſions* have alſo a very extenſive, and powerful influence, upon the body, of the ſame involuntary kind.

EMOTIONS of the mind, ariſing from objects and ideas adapted to excite grief, joy, benevolence, or gratitude, will often occaſion a flow of tears from the lachrymal veſſels.

A

A ſenſe of ſhame, or a modeſt acceptance of applauſe, will excite bluſhing, or an unuſual glow of colour, and warmth, in the face, neck, and boſom; and particularly of young perſons, and of the more delicate ſex.

ANY ideas, whatever, preſented to the mind, which are capable of exciting paſſion, may, by ſuch excitement, increaſe, or diminiſh, the velocity, and momentum, of the blood, or otherwiſe variouſly affect its circulation, according to the nature, and degree, of the paſſion to which it gives occaſion. §

§ This will evidently appear to any one who conſiders the common, and ſpecific effects of the ſeveral paſſions on the body. When violent, they often produce very violent, and extraordinary effects; of which the following are inſtances.

"Theſe [*violent paſſions*] alone, ſometimes produce violent inflammations and gangrene. New recruits often fall into very obſtinate diſorders, if they be not diſmiſſed from the army. Some are ſeized with an acute fever, which proves mortal; whilſt others are either affected with *madneſs*, or become ſcorbutic.

In a word, the paſſions are the principal inſtruments of the mind's agency on the body. Their effects are various, ſudden, and on many occaſions, violent: and will be found to throw much additional light on this ſubject, when we come to treat of them ſomewhat at large in their proper place.

(A) Bodily

tic. The author has ſeen wounded ſoldiers, who in their dreams being thrown into a violent fit of paſſion, their wounds inflamed, and became gangrenous."

"One of theſe men, who was of a cowardly diſpoſition, in order that he might be ſent to the hoſpital, made, with a bliſter, a great ulcer in his leg, which he contrived to keep open by various means. He was admitted into the hoſpital, and the author cured him in a few days. On being informed of the neceſſity there was for his joining the regiment, he diſcovered great ſigns of fear, and remained ſilent. In two hours he was ſeized with cold and hot fits alternately, accompanied with a pain of the head; the leg began to inflame and tumify, and next day, notwithſtanding he was blooded, there appeared a gangrene, which in a few days ſpread over the whole calf of the leg; but by bleeding, and the uſe of the cortex, he was entirely cured."—— From the account of *a Chirurgical Treatiſe on the Phlegmone and its Terminations, by* John Alexander Brambilla, firſt Surgeon to the Emperor——in the *Foreign Medical Review*, Part 2. p. 117.

(A.) BODILY CAUSES.

I. INTERNAL CAUSES *ſeated in the* BRAIN, *its* VESSELS, *and* MEMBRANES.

I Now enter, more particularly, upon the conſideration of the ſeveral REMOTE CAUSES of Inſanity: in treating of which, I ſhall not pay any very exact attention to the diſtinction of *prediſpoſing*, and *occaſional* cauſes; or be very ſolicitous to aſcertain which are of the one kind, and which of the other; or how far, and in what reſpects, on different occaſions, the ſame cauſe may partake of the nature of either. Dr. LORRY, who divides Inſanity into two kinds, which he calls *nervous* and *humoral*, reckons a *delicate and irritable*† conſtitution, liable to violent

† "Nec minus probatum confidimus *eam* [Melancholiam nerveam]

lent and inordinate nervous affections, as the prediſpoſing cauſe of the *former*; and of the *latter* the *melancholy temperament* of the antients, or what he rather chooſes to call an *intemperament*

nerveam] *duplicem eſſe*; *unam* in qua nervi quaſi *accenſi*, *ultra conſtitutas a natura toni metas*, tranſiliunt & abripiuntur: *alteram* in qua *extra ordinem*, in abſurda quæque abnormes pulſiſque repagulis, feruntur."——"Inquiſitionis ergo noſtræ argumentum conſtituunt *cauſæ evidentes*, quæ hinc *nerveam actionem intendere* poſſunt; illinc vero *eam peſſundare*."——"Efficit morbum cum cauſa occaſionali, *conditio corporis* huic recipiendo apta.——*Hanc* inducunt *cauſæ ipſæ Melancholiæ* a longo tempore agentes, & quæ dum corpori inſident, ipſam quaſi aptant & figunt ad Melancholiam. Hic præcipue jure recenſentur, *tenella conſtitutio*, prava educatione præſertim pravam naturam debilitante."——*De Melancholia*. Tom. I. p. 81. &c.

"*Nor is it, I am perſuaded, leſs evident, that* nervous Melancholy *is of* two kinds; *in* one *of which the nerves, being* ſtrongly excited, *over-leap, and are hurried* beyond the boundaries of tenſion eſtabliſhed by nature: *in the* other, *being diſpoſed to act* in a diſorderly manner, *they deviate* from their uſual courſe *into every kind of abſurd, and irregular exertion.*——*The proper ſubjects, therefore, of our inquiry, are thoſe* evident cauſes *which are capable of* increaſing the nervous action *on the one hand, or of* perverting it *on the other.*——*In the production of the diſeaſe it is not only requiſite that there ſhould be an occaſional cauſe, but the concurrence of a fit* diſpoſition of body *for its reception.*——This diſpoſition *may be induced by a long continued action of* the very cauſes of Melancholy, *which, having once taken up their reſidence in the body, may gradually mould, and faſhion it, as it were, for the reception of Melancholy. And here the prehemineence is juſtly due to* a delicate conſtitution; *and eſpecially when an injudicious education has conſpired to debilitate what nature had originally made but too infirm.*"

temperament which is, at the ſame time, *melancholy, cold, and dry.*¶

BUT, not to mention that it may juſtly be doubted whether there be, in reality, any ſuch humour in the body, as that which the antients termed *atra bilis*, and, conſequently, whether there be, ſtrictly ſpeaking, any ſuch temperament as the atrabilious, or melancholy; it is certain from experience,

¶ "Cæterum quicquid huc uſque de cauſis Melancholiam invenentibus diximus, ita intelligendum eſt, ut non ex rei neceſſitate Melancholiam inferent illæ, cum per ſe natæ ſint & alia & peſſima mala producere. Verum requiritur *prædiſpoſitio quædam* a natura accepta, aut arte conquiſita, & a repetitis earumdem cauſarum ictibus altius intruſa, quod *Melancholicum temperamentum* veteres vocaverant; nos vero rectius intemperiem Melancholicam, frigidam porro & ſiccam."——*De Melancholia.* Tom. I. p. 293.

"*What we have hitherto ſaid of the cauſes of Melancholy, is not ſo to be underſtood as if they were neceſſarily productive of this diſorder; they being of their own nature capable of producing other, and thoſe very grievous maladies. To give occaſion to Melancholy there muſt be* a certain prediſpoſition; *either received from nature, or acquired by art, and deeply rivetted by the repeated action of the ſame cauſes, which was termed by the antients* the Melancholy temperament; *but which we may ſtile, with more propriety,* an intemperament which is at the ſame time Melancholy, cold, and dry."

rience, and will appear obvious, after having gone through the inveſtigation of the remote cauſes, upon which we are now entering, how inadequate the prediſpoſing cauſes mentioned by Dr. LORRY, are to the purpoſes aſſigned to them; and that perſons of all conſtitutions, and of all temperaments, are liable to this diſorder, when affected by exciting cauſes of ſufficient force, and efficacy. And indeed Dr. LORRY himſelf ſeems tacitly to acknowledge their inſufficiency, when he tells us that this *prediſpoſition* "may be induced by a long con-"tinued action of *the very cauſes of melan-*"*choly*, which, having once taken up their "reſidence in the body, may gradually "mould, and faſhion it, as it were, for its "reception."

OF all the cauſes mentioned under this diviſion in the table, we derive our knowledge from the diſſection of the heads of ſuch as have died inſane. The authorities on which they are here inſerted may be found in

in the *preceding* SECTION. How far each of the appearances here ſet down as a cauſe, when it occurs after death, has actually been concerned in the production of the Inſanity which exiſted during life, may be a difficult matter to determine. It is obvious that they are all more or leſs capable of affecting the brain, its veſſels, or membranes, by compreſſion, irritation, or both. It has already been obſerved that the ſame appearances which are found after death to have accompanied Inſanity, are alſo found to be attendants upon many other diſeaſes. Whence they derived that ſpecific determination which led to the production of Inſanity, and from what peculiar modifications of compreſſion, or irritation, reſulted the ſeveral ſpecies, will be more properly a ſubject of inquiry in treating of the *proximate cauſes*.

II. EXTERNAL CAUSES *which operate mechanically upon the* BRAIN.

1. EXOSTOSES *of the inner table of the* SKULL

SKULL have been enumerated among the occaſional cauſes of this diſorder.* In proportion to their magnitude they muſt, in a greater or leſs degree, compreſs and irritate the brain. It is poſſible, therefore, that they may ſometimes, be the exciting cauſe of Inſanity; and eſpecially in thoſe inſtances in which it appears to have owed its origin to inveterate venereal complaints.

2. 3. THAT *depreſſion, or fracture of the ſkull*, and *concuſſion of the brain*, ſhould be the cauſes of compreſſion, and irritation, is equally apparent. There have been many inſtances in which theſe accidents have given occaſion to Inſanity; and there are even ſome in which they have cured it. HOFFMAN‡ relates two caſes of Inſanity, one from SANCTORIUS, of a youth who was cured by a wound which had penetrated his ſkull, and

* Dr. BATTIE's *Treatiſe on Madneſs*. p. 46.

‡ HOFFM. *Oper. Supplem. Secund.* Part. ſecund. p. 333. § X. & p. 336. § XV.

and deſtroyed a portion of the ſubſtance of the brain; and who from being implacable, raſh, and perfectly irrational, became ſo mild, and reaſonable, that few could equal him in the wiſdom of his conduct, or converſation: and the other from RONDELETIUS, of a ſimilar cure, in conſequence of a fracture of the ſkull which had let out a watry fluid. And in SCHENCKIUS's collection there is a hiſtory of a madman who happening to be ſo wounded in the head, that his ſkull was fractured, was free from his Inſanity while the wound remained open; which, however, returned again when it was healed: and of two women who were cured by falls.||

4. NOR is it leſs evident to the medical reader, how *the immediate action of the burning rays of the ſun upon the head*, may, in like manner, affect the brain by irritation. and compreſſion. It is well known that external heat,

|| SCHENCKII *Obſ. Med. Rar.* Lib. I. Obſ. 8. 9. p. 128.

heat, upon all occaſions, excites quicker than ordinary vibrations in the ſmall and capillary arteries of the part on which it acts; that theſe accelerated vibrations are readily communicated to the neighbouring ſmall arteries; that this increaſed action of the ſurrounding ſmall arteries, forcing a greater quantity of blood than uſual through their cavities, in a given time, muſt of courſe accelerate the motion of the vital fluid through the veſſels by which they are immediately ſupplied, and ſoon through a ſtill larger ſeries of veſſels, in proportion to the violence, and duration, of the firſt exciting cauſe; ſo that the more intenſe the heat, the greater will be the quantity of blood which will paſs through the ſmall veſſels of the part immediately affected by it, in a given time; and the influence of this increaſed action of the ſmaller arteries will gradually extend along the larger ones, from which they derive their origin, and ultimately even to the heart itſelf, that the blood may be plentifully ſupplied where it is largely demanded. And all theſe effects will be increaſed

creaſed in a progreſſive ratio, by means of the irritation ariſing from the accumulation of blood in the correſponding veins, from the conſequent diſtention, and pain, of the neighbouring parts, and from the immediate operation of heat upon the irritability of the nervous ſyſtem, the longer the heat continues to act upon the part more particularly expoſed to it.

WHEN, therefore, by any imprudent, or unavoidable expoſure, in hot climates, the burning rays of the ſun act long, and immediately upon the head, it is obvious that there muſt be an unuſual derivation of blood to the part thus immediately, and powerfully, acted upon by heat; that, ſince the activity of the veins, being much leſs conſiderable than that of the arteries, will be much leſs influenced by the ſtimulating power of the heat than the arteries are, the blood muſt rapidly accumulate in the veins and ſinuſes of the brain and its membranes; and

and that the brain muſt, of conſequence be ſuddenly compreſſed, and irritated in a very great degree;——it is no wonder, therefore, that highly delirious fevers, and Inſanity, ſhould be frequent, and violent; ſudden in their attack, and rapid in their progreſs; in very hot climates.

HOFFMAN* ſays that long expoſure to the rays of the ſun, eſpecially in the dog-days, may either be the originally exciting cauſe of Inſanity; or may renew its paroxyſms: and the late Dr. BATTIE† tells us that he once met with an inſtance of a ſailor, "*who became raving mad in a moment* "*while the ſun beams darted perpendicularly up-* "*on his head.*"

5. WHEN the *head is remarkably ſmall*, in

* *Oper. Supplem. Secund.* Par. Secund. p. 344. § XVI. (12).

† Treatiſe on Madneſs. p. 47.

in compariſon with the ſize of the body; which it muſt of neceſſity be if the ſutures of the ſkull, becoming obliterated in early youth, check its growth before it has acquired thoſe dimenſions which are requiſite to the preſervation of a juſt proportion between it and the other members, when arrived at a ſtate of maturity; not only the due expanſion, and unfolding, of thoſe parts of the brain on which the perfect, and unimpeded, operation of its functions, and conſequently a ſound underſtanding, depends, may be prevented; but the quantity of blood ſent to it, may be rendered diſproportionate, and its momentum increaſed, by the ſmallneſs of its capacity; and the overdiſtended veſſels of that delicate organ, may ſo compreſs, and irritate it, as to give occaſion to Inſanity of ſome ſpecies, or other.

WILLIS, in his *anatomy of the brain*, gives a figure of it, as he had obſerved it in a youth who had been an *idiot* from his birth, and in whom it was found to be leſs than it ought

ought to have been. As might be expected in ſuch a brain, which, in conſequence of being of leſs magnitude than uſual in bodies of the ſame ſize, would probably poſſeſs ſolid parts in too ſmall a proportion to its vaſcular cavities, becauſe theſe cavities would be too much diſtended by the undue proportion of blood circulated through them, and would by their diſtention compreſs, and reduce into a ſmaller compaſs, the ſolid parts, it was not only leſs, but more flabby than it naturally is in its ſound, and perfect ſtate.¶

6. I have introduced a *ſwelling in the neck* into this diviſion of the table of cauſes, upon the authority of BRASAVOLUS, as I find him quoted by SCHENCKIUS.* But whether,

¶ WILLIS *Cerebri Anatom.* p. 14. cap. III. fig. 4.—— BOERHAAVII *Prælect. Acad. de Morbis Nervor.* Tom. I. p. 128.

* SCHENCKII *Obſ. Med. Rar.* Lib. 1. Cauſæ. Obſ. 1. p. 132.

whether, in the caſe he has related, it operated mechanically, by compreſſing the jugular veins, and thus occaſioning a plethoric ſtate of the brain, or in ſome other manner, appears ſomewhat doubtful. I have, therefore, placed it here rather as a cauſe which might poſſibly give riſe to Inſanity in this way, that as one certainly known to have done ſo.

III. *Cauſes affecting the* BODY IN GENERAL, *which produce Inſanity, either by acting* directly *upon the brain, or by introducing a* gradual *change in the ſyſtem which diſpoſes to Inſanity.*

1. IN caſes of *phrenſy*, *ſmall-pox* accompanied with delirium, and *other delirious fevers*, the intellectual diſorder may continue after the fever has ceaſed, and the acute delirium of the fever be converted into the chronic one of Inſanity; or the fever may have ſo injured the brain, as to leave in it a diſpoſition to returns of the delirium, which may

may again be excited by any ſuitable, and even ſlight, occaſional cauſe, without a return of the fever; or ſome trifling, or merely ſymptomatic fever, may accompany the firſt attack of returning delirium, and may ſpeedily ceaſe with little or no abatement of the Inſanity:——or delirious fever may have ſo debilitated the body, diminiſhed the healthful tones, induced morbid *irritability*, and *ſenſibility*, excited uneaſy and painful ſenſations, and, in a word, may have ſo weakened the brain and the whole nervous ſyſtem, as to have given riſe to chronical complaints which may diſpoſe to, and readily terminate in, Inſanity.

Of the production of Inſanity, by each of theſe cauſes, there are ſuch frequent inſtances, that it would be needleſs to adduce any particulars in proof of it; and the mode of production is ſo obvious, as ſcarcely to require an explanation. Whatever be the kind of delirious fever from which it originates, the exciting cauſe will be nearly the ſame: there will be accelerated vibrations of

of the ſmall veſſels of the brain, and an increaſed determination, and accumulation, of blood in them, variouſly diſtending, compreſſing, and irritating, the ſeveral parts of that delicate organ. That ſuch an increaſed velicity of circulation as takes place in fevers, is of itſelf ſufficient to occaſion delirium, and eſpecially if at the ſame time it be ſo vigorous as to determine the blood with any extraordinary force to the head, is evident from the many inſtances which occur of delirium in intermittent fevers, in which it only ſhows itſelf in the height of the febrile paroxyſm, and diſappears as the fever declines. I have known ſeveral examples of the generation of Inſanity, or of its reproduction in perſons who had been formerly ſubject to it, by intermittent, and remittent, as well as continued, and inflammatory fevers.

INDEED it is ſo common a caſe for the delirium of a fever to terminate in Inſanity, that BOERHAAVE,* VAN SWIE-

* *Aphoriſm.* § 1108. 2. § 1125.—*De Morb. Nerv.* Tom. 2. p. 412.

TEN,† HOFFMAN,‡ and moſt practical writers who have had occaſion to treat of this diſorder, have not only mentioned the phrenſy, but ardent, putrid, bilious, variolous, and other exanthematous, and intermittent fevers, when accompanied with delirium, among its frequent occaſional cauſes.

WE are told by DIONIS in his account of an attempt made at Paris to introduce into medicine a new practice, which conſiſted in transfuſing the blood of a young, and healthful animal, into the veins of an old, or diſeaſed one; by means of which it was propoſed to cure or prevent diſeaſes, to preſerve or reſtore youth, and to prolong life; that all thoſe on whom the experiment was tried became ſuddenly inſane, and died raving.§ They

† *Comment.* in Aphor. § 1108. 2. § 1125.

‡ *Med. Rat. Syſt.* Tom. IV. Part. IV. cap. VIII. § 18. *Operum* Tom. III. p. 254.——and p. 262. Cautel. & Obſervat. Pract. § 1.

§ "Ils firent pluſieurs de ces operations qui devoient, ſelon eux,

This unhappy *termination* of a project, of the ſucceſs of which they had conceived ſuch flattering expectations, is ſuppoſed by VAN SWIETEN to prove how much we have to apprehend from the introduction of any foreign ſubſtance, however mild, into the circulating blood; of which he eſteems *drunkenneſs* to be another example. But as the *latter* ſeems, in a great meaſure, to be the effect of a ſympathy between the ſtomach and brain: ſo the *former* might probably ariſe

eux, avoir un ſucces ſuprenant; mais la fin funeſte de ces malheureuſes victimes de la nouveaute deſtruiſit en un jeur les hautes idees qu'ils avoient concues, ils devinrent foux, furieux & moururent enſuite. Le parlement informe de ce qui s'etoit paſſe, interpoſa ſon autorite, & donna un Arret par lequel il etoit defendu ſous des rigoureuſes peines de faire cette operation."—— *Cours d'Operations de Chirurgie.* p. 498.

"*They performed ſeveral of theſe operations, from which they promiſed themſelves the moſt wonderful ſucceſs. But the dreadful end of the unhappy victims of this new practice, deſtroyed in one day their viſionary expectations;—they all became inſane, and died raving. The parliament, being informed of what had paſſed, interpoſed its authority, and iſſued a proclamation in which the operation was prohibited under very ſevere penalties.*

riſe from too plethoric a ſtate of the vaſcular ſyſtem, occaſioned by the quantity of blood transfuſed, together with an increaſed determination of it to the brain, the natural conſequence of ſuch a ſtate; rather than from any thing neceſſarily noxious in the introduction of a foreign ſubſtance, merely as ſuch, into the courſe of the circulation.

2. It is pretty generally allowed that Inſanity, and eſpecially of that diviſion which I have termed *ideal*, is a very common diſorder in *hot climates*. Nor is it difficult to conceive how intenſe heat may readily produce it; whether we conſider it as immediately effected, which it ſeems not unfrequently to be, by the rarefaction of the blood, and the conſequent fulneſs of the vaſcular ſyſtem; by its accelerated motion; by the unuſual irritability, and inflammatory tone, of the blood-veſſels; and by the increaſed determination of the circulating fluids to the head; without the intervention of any great degree of fever: or as the conſequence of thoſe ardent, and delirious fevers, which are

are ſo common, and ſo violent, in the countries which are much expoſed to the burning rays of the ſun: or as the offspring of that exquiſite irritability and ſenſibility, of that ſuſceptibility and keenneſs of the appetites, of that quickneſs and activity of the imagination, that livelineſs and vehemence of paſſion, ſo conſpicuous in the countenance and habit of body, in the manners and conduct, in the religious ſentiments, and in the literary compoſitions, where literature has any exiſtence, of the numerous nations who inhabit the torrid, and the warmer climates of the temperate zones.

THE learned, and ingenious Dr. LORRY,* draws a ſtriking picture of the effects of the too exquiſite irritability, and ſenſibility, of the inhabitants of the ſouthern parts of Aſia.——"Among them, he obſerves, "the arts and ſciences received their firſt "rudiments

* *De Melancholia.* Tom. I. p. 84. &c.

" rudiments; but were prevented, by the
" want of perſeverance, and impatience of la-
" bour, from riſing to the higheſt degrees of
" perfection. Poetry is ſo natural to them,
" that their common language is, in our eſti-
" mation, abſurdly metaphorical. If we take
" a view of their manners, they are no leſs
" extravagant. Their courage is fury, and
" outrage; and their fear puſillanimity.
" Crimes, in the pages of oriental hiſtory, are
" every where blackened with incredible bar-
" barity; and the examples of virtue, and
" wiſdom, appear to be ſcarcely human.
" There we ſee piety, contaminated with fa-
" naticiſm, wiſdom obſcured by fable, and ſci-
" ence involved in myſtery. In theſe regions
" mad, and ungovernable love, taught the art
" of locking up in ſeraglios, and enſlaving to
" the will of one man, the moſt beautiful
" of the human ſpecies. Here the fire of love
" glows with ſo much ardor, and ſo poſſeſſes,
" and inflames, the whole man, that neither
" threats, nor the fear of death, can extin-
" guiſh an affection which has once been
" lighted up. Here the ſenſibility of the paſ-
" ſions

" ſo exceſſive are the effects of muſic upon " theſe ſuſceptible people, that from this " circumſtance the notions of charms, " incantations, and enchantments, have de- " rived their origin."

IN our own, and in other temperate climates, Inſanity is obſerved to be more frequent in ſummer ; and eſpecially during the heat of the dog-days, or after a long continuance of very hot, dry, and ſultry weather. In theſe ardent ſeaſons, the fiery temperature of the air not only rarifies the blood, ſtimulates the heart and arteries to quicker and ſtronger contractions, determines an unuſual quantity of blood to the head, and by theſe and the other means abovementioned produces immediate Inſanity of the more violent kinds ; but by diſſipating the fluid parts of the blood, and enfeebling the ſolids, when it continues for any great length of time, may with the aſſiſtance of other concurring cauſes, gradually lay the foundation of this diſorder, and prepare the way for ſubſequent attacks of it

it in the leſs violent, but not leſs diſtreſſing, and uſually more gloomy forms, of anxiety, depreſſion, and Melancholy.

THE inhabitants of Apulia, where, as we are told by BAGLIVI,† there is ſcarcely any rain in the ſummer ſeaſon, and where they breathe an air as intenſely hot as if it proceeded immediately from the mouth of a furnace, partake of the nature of the climate, are of an aduſt temperament, have black hair, a ſallow and ſometimes pale complexion, are lean, impatient, paſſionate, wakeful, acute, rapid

† "Regio prædicta [Apulia] orientem reſpicit, ventiſque orientalibus, & aquilonaribus obnoxia eſt: æſtate illic imbres rariſſimi; qua de re, imo etiam ob vicinium orientis, exurentiſſimis caloribus ſolis uritur Apulia; unde populares illi coguntur reſpirare aerem quaſi ab ardenti clibano efflantem.——Huic climatis temperiei analoga eſt illa incolarum; generaliter enim populares illi ſunt aduſti temperamenti, nigris capillis, ſubfuſco, quandoque ſubpallido cutis colore præditi, macilenti, impatientes, iracundi, inſomnes, magno mentis acumine præditi, ad diſcurſum veloces, ad operationes promptiſſimi. Obnoxii potiſſimum ſunt ardentiſſimis febribus, phrenitidi, pleuritidi, dementiæ, aliiſque morbis inflammatoriis; tantaque caloris eſt illis in regionibus activitas, ut plurimos viderim in ſummam impatientiam, atque in dimentiam actos."———*Diſſertat. de Tarantula*, cap. 2. *Operum* p. 607.

rapid in converſation, and prompt in execution; and are peculiarly liable to the moſt ardent fevers, phrenſy, pleuriſy, *Madneſs*, and other inflammatory diſorders. Such, indeed, he tells us, is the exceſſive activity of the heat in that climate, that he has often ſeen people driven into *Madneſs* by the agony of impatience into which they were hurried by its intolerable violence.

HOFFMAN* reckons *intenſe cold*, and eſpecially when the lower extremities have been imprudently expoſed to it, among the remote cauſes of Inſanity; and accounts for its agency in the production of this diſorder, by means of the ſpaſm which it excites over the whole ſurface of the body, whether it be univerſally, or only partially, applied to it; and the conſequent determination of the circulating blood, with unuſual force, and energy, from the ſurface, to the internal parts; whence,

* *Med. Rat. Syſt.* Tom. 4. *Operum* Tom. 3. p. 254. § XXI.——& *Supplem. Secund. Part. Secund.* p. 239. § 13.

whence, of courſe, muſt ariſe various diſorders in the larger veſſels, and thoſe internal parts with which they are connected, and particularly in the lungs, in the heart, and in the brain; producing in the breaſt, oppreſſion, anxiety, ſhortneſs of breath, and ſighing; in the heart, trembling, and palpitation; and in the head, giddineſs, weight, ferocity of the eyes, long watching, and various kinds of inſane delirium. This he not only illuſtrates by the coldneſs of the extremities, and ſhivering, which frequently precede hypochondriacal paroxyſms; but by the hiſtory of a remarkable, and obſtinate hypochondriacal diſorder, brought on by long expoſure, on a journey made in the depth of a ſevere winter, to intenſe cold. But, notwithſtanding the authority of ſo great a name, as this is, at beſt, a very remote cauſe, and has rarely, if ever, been known to have been immediately inſtrumental in the production of Inſanity, I have not ventured to introduce it into

into the list of causes upon a merely hypothetical foundation.

3. As great heat of climate, so *immoderate exercise*,¶ and especially in a hot and dry air; by accelerating the motion of the blood, heating the body, exhausting it by profuse perspiration of its more fluid parts, increasing the velocity, and force, of the circulation through the head, and causing an unusual accumulation of blood in the brain; is not only capable of producing immediate Insanity, or delirious fevers terminating in Insanity; but may likewise give occasion to this disorder by

¶ Boerhaavii *Aph.* § 1093 & § 1108.

Timæus a Guldenklee—— "refert motum corporis concitatiorem æstivo tempore institutum juvenem maniacum reddidisse."——Hoffman. *Exercitat. Physico-Medic. de Morbis ex Morbosa Sanguinis Circulatione ortis.* Oper. Supplement. Secund. Part. Secund. p. 336. § XVI.

"Timæus a Guldenklee *relates the case of a young man who was rendered maniacal by the exercise of running in hot weather.*"

by means of the great debility, and various chronical complaints, which may owe their origin to this ſource.

4. *Profuſe evacuations* of every kind, even in the firmeſt conſtitutions, ſoon produce *debility*; which cannot long exiſt without giving riſe to the permanently *lax*, *infirm*, and *nervous tones*, and their natural offspring *langour*, *depreſſion*, and *gloomineſs*. Theſe, if of any conſiderable ſtanding; whether owing to the continuance of their cauſe, or to its having induced by its violence, though it may now be long ſince it ceaſed, ſuch a degree of weakneſs into the habit as nature cannot eaſily overcome; and eſpecially, if aided by the concurring influence of ſuch external cauſes, as have a tendency to excite any of the painful, and dejecting paſſions, are, by the mere habits of uneaſineſs, anxiety, and depreſſion, readily convertible into actual, and too often into incurable Inſanity;* which is at firſt, from

* Vide BOERHAAVII *Aph.* § 1108. 2. & VAN SWIETEN.

from the very nature of its cauſes, uſually pathetic; but which not uncommonly ſo increaſes in violence, as it proceeds, as to arrive at length, and ſometimes very rapidly, to the moſt outrageous impetuoſity of *phrenitic Inſanity*.

CASES of this ſort are not unfrequent; and if recent are as eaſily cured, as when of long date, they are obſtinate, and unyielding. I recollect one inſtance of Inſanity from this cauſe, which, at the ſame time that it illuſtrates the facility with which it may be removed before time and habit have rendered it inveterate, affords a plain proof of the powerful influence of mere exhauſtion, and debility, in generating this diſorder. An unhappy mother, in a low ſtation of life, who while poverty obliged her to live on a ſcanty allowance

VEN *Comment.*—item BOERH. *Aph.* § 1125, & VAN SWIET. *Comm.*——Vide etiam HOFFMANN. *Diſſert. Medic. de vera Morbi Hypochondriaci Sede, Indole, ac Curatione.* Supplem. Secund. Part. Secund. p. 230. § XIII.

allowance of poor, and unnouriſhing diet, had too long given ſuck to a hearty child, was reduced almoſt to a ſtate of deſperation by the debility which ſo ill timed an evacuation had occaſioned. From this miſerable condition ſhe was reſtored, in a ſhort time, to health, and ſerenity, by weaning her child, and uſing a more plentiful, and nutritious diet, without the aid of any medicine whatever.

5. But of all the cauſes of Inſanity which operate chiefly by means of the previous production of debility, none are more effectual, or more obſtinate, than *exceſſive venery*; which, at the ſame time that it acquires accumulated, and almoſt invincible force by habit, and almoſt incurably enervates the body, and debilitates the mind, is uſually accompanied by other diſtreſſing circumſtances; by great and often irreparable injury both of fame and fortune; by a privation of the very enjoyment for the ſake of which they were ſacrificed, by the poſſeſſion in its ſtead of the moſt tormenting, and tantalizing deſires, which are for ever diſappointed with pain

where

where they ſought for gratification; by vain regret for the loſs of almoſt every pleaſure, and every comfort, both corporeal and mental, and the aggravating reproaches of a guilty conſcience; and to add to its fatal power of gradually debilitating by all theſe means, the faculties of the mind, and ſubverting their ſound, and rational operation, it has a peculiar tendency by nature, while it exhauſts the vital powers, and enfeebles the whole animal ſyſtem, to occaſion an increaſed action of the veſſels of the brain, and an unuſual determination of blood to that organ, and thus, on many occaſions, to give immediate occaſion to Inſanity, by its direct action upon it.

WHERE the tendency of a cauſe is ſo obvious, authority can ſcarcely be wanting to prove the exiſtence of its effects; if it were, inſtances might be adduced in great abundance. Authors, indeed, are univerſally agreed, from GALEN down to thoſe of the preſent day, about the pernicious influence of this enervating indulgence, and its ſtrong propenſity

propenſity to generate the very worſt, and moſt formidable kinds of Inſanity. Nor is the injurious power it derives from its immediate operation upon the brain, perhaps, leſs conſiderable; and it is certainly more direct, and ſudden; than that which it owes to its tendency to produce debility, regret, diſappointment, anxiety, and remorſe. It has frequently been known to occaſion ſpeedy, and even inſtant Inſanity. SCHENCKIUS† relates a caſe from JACCHINUS of phrenitic Inſanity which was ſpeedily brought on by this cauſe; and HOFFMAN‡ relates, from FORESTUS and HENRICUS AB HEER, two other caſes of a ſimular nature.

6. A *deficiency of nouriſhment*, from whatever cauſe, at the ſame time that it has the common

† *Obſ. Med. Rar.* Lib. 1. Obſ. 3. p. 133.

‡ *Med. Rat. Syſt.* Tom. IV. Part. IV. Cap. VIII. § XV. *Operum* Tom. III. p. 254.——& *De Mentis Morbis, ex Morboſa Sanguinis Circulatione orti.* Supplem. Secund. Part. Secund. p. 334. § XI. & p. 336. § XVI.

common debilitating agency of profuſe evacuations, not only deprives the body of a due ſupply ; which, as it may be abundantly furniſhed, during the exiſtence of ſuch evacuations, may in ſome degree diminiſh their bad effects ; but weakens, and injures, in a peculiar manner, the ſtomach and other organs of digeſtion and chylification, which are the immediate ſources, and whoſe debility ſeems to be the principal cauſe, of hypochondriacal Melancholy,* the fruitful parent of almoſt every ſpecies of Inſanity : nor is it merely of itſelf a powerful agent in the production both of notional and ideal deluſion, by inducing debility in its higheſt, and worſt, degree, and all its tormenting conſequences, langour, ſpaſm, pain, dejection, anxiety, and fearful apprehenſion ; but it not uncommonly brings others in its train : ſince it can ſeldom

* Hoffmanni *Diſſert. Medic. de præcipuo Studioſorum Morbo, ejuſque genuinis Cauſis.* Operum Supplem. Secund. Part. Secund. p. 243. § IV. Zacut. Lusit. *Oper.* Tom. I. p. 82. Hiſt. 43.

dom fail to be accompanied with a variety of thoſe diſtreſſing paſſions which muſt naturally originate from extreme poverty, accidental misfortune, cruel uſage, or ſome painful, or perhaps hopeleſs, bodily diſeaſe, which either withhold the means of good and wholeſome nouriſhment, or, if they do not withhold them, render it impoſſible to uſe them in a ſufficient quantity, or, when they are plentifully taken, ſo impede digeſtion, and chylification, as to defraud the body of its due proportion of daily refreſhment, and repair.

7. As the phrenitis, ſmall-pox accompanied with delirium, and other delirious fevers, give riſe to Inſanity by their immediate influence upon the brain, ſo *fevers of whatever kind, which have continued long, have frequently recurred, have terminated with an imperfect criſis, or have not been treated with proper dilution*, are often found to be productive of Inſanity by means of the infirm tones, debility and obſtruction of the ſtomach and bowels, and other diſeaſes of the natural, and animal functions;

functions, which they leave behind them, or give occaſion to; and perhaps by injuring the brain itſelf in ſome degree, both by the violence of the fever, and by the ſubſequent debility, ſo as to render its veſſels unuſually ſuſceptible of an increaſe of action, and apt to produce a preternatural accumulation of blood within the cranium.

WE are informed by SYDENHAM that he frequently met with *Mania* which had been the offspring of long continued *intermittents*, as well of *ſpring tertians*, as, which more commonly happened, of *autumnal quartans*; and that the latter, in particular, was ſo far from requiring evacuations, of any kind, that the mere adminiſtration of the mildeſt clyſter, conſiſting of nothing more than milk and ſugar, even when the patient was in a convaleſcent ſtate, would immediately renew the diſorder.*

THOUGH

* *Oper. Univerſ.* p. 84. 101—103.

THOUGH Insanity of this sort seems to be much less frequent now than it was in SYDENHAM's time; owing, probably, to the very free use of evacuants in those days, and the timid exhibition, or total neglect, of the Peruvian bark; a practice which was reprobated by that sagacious physician, and has now happily given way to a better, and, indeed, almost infallible method of cure; yet Insanity from this cause still occurs now and then; and though it is not at present so intollerant of all evacuations as it seems then to have been; and will not only bear, but requires their prudent, and moderate use; yet is it principally to be treated, when its violence is somewhat abated, with nourishing diet, and a plentiful use of the bark.

BONETUS¶ gives the history of a case of

¶ *Sepulchret.* Tom. I. p. 205. Obs. 1.

of phrenitic Insanity which had succeeded an acute fever unaccompanied with delirium.

HOFFMAN mentions Insanity of every species as frequently occurring after most sorts of acute fevers, and especially if they have been protracted to a great length: and accounts for this circumstance from the dissipation of the animal spirits by the violent, and long continued, febrile heat, and watching; from a defect in their secretion in consequence of the injury done to the fibrous texture of the brain; and, in short, from a diminution of the tone of the vessels and fibres of the brain, and of the whole animal system.‡ He also relates a case of Insanity, succeeding a tertian fever, every paroxysm of which had been accompanied with a slight delirium:* and considers

‡ *Med. Rat. Syst.* Tom. IV. Part. IV. Cap. VIII. § XVIII. *Oper.* Tom. 3. p. 254.

* *Consult. & Respons. Med.* Caut. 1. Sect. 1. Cas. XXXVI. *Oper.* Tom. IV. p. 62.

conſiders hypochondriacal Melancholy as no uncommon conſequence of intermittents; but, unfortunately, attributes this circumſtance to their being cured by the Peruvian bark,—— "according to SYDENHAM's me-"thod without the intervention of any purg-"ing medicine to carry off the remains of the "remedy, as well as of the diſeaſe."†

8. AND of the long, and enervating train of evils ariſing from indigeſtion, obſtruction, and defective tones of every kind, all, or moſt, are, ſooner or later, and in a greater or leſs degree in proportion to the original firmneſs, or delicacy, of the natural conſtitution, and the degree of the injuring cauſe, the neceſſary and inevitable conſequences of an *inactive and ſedentary life*. It is no wonder, therefore, that Inſanity of ſome ſpecies, or other, ſhould often cloſe the painful, and gloomy proceſſion.

How

† *De vera Morbi Hypochondriaci Sede, Indole, ac Curatione,* § XIV. *Oper.* Supplem. Secund. Part. Secund. p. 231.

How all theſe afflicting evils are the natural, and moſt of them the neceſſary, offſpring, of an inactive and ſedentary life, will but too plainly appear, if we conſider the known effects of EXERCISE, in its various degrees, upon the human body.

As ſome degree of motion, and exerciſe, ſeems almoſt eſſential to the very being of the body, as an active, and animated machine; ſo a conſiderable degree of them, greater or leſs in different ages, ſexes, and conſtitutions, is abſolutely requiſite to its wellbeing.

In *early youth*, while the texture of the fibres is yet tender, their ſtrength infirm, and the nervous ſyſtem delicately irritable, exerciſe ſhould be active, and lively, but never violent; and, though not inceſſant, it ſhould be interrupted with but ſhort intervals, and thoſe rarely of perfect inaction; excepting during the neceſſary refreſhment of ſleep, when it may be protracted to a greater length in the tender ages of infancy, and youth, than

than at any other period of life, excepting extreme old age.

In the *prime of life*, when the body is arrived at its perfect vigour, and maturity; when the texture of the fibres is become more compact, and their ſtrength robuſt; when the nervous ſyſtem, though ſufficiently animated, and ſuſceptible, is not too delicately irritable; exerciſe ſhould be more vigorous; and though it will admit of longer interruptions of a leſs active ſtate, we ſhould carefully guard againſt very long, or very frequent intermiſſions of moderate, and continued motion; and againſt all intemperate indulgence of repoſe in bed, whether ſleeping, or waking.

As *old age* advances, and the fibres become hard, inflexible, and inactive; the nervous ſyſtem leſs irritable; and the powers of life are approaching to decay; exerciſe ſhould be leſs vigorous, leſs lively, and leſs perſevering; and ſhould be interrupted with very frequent

frequent, but not with very long intervals of reſt; and ſleep, if happily a ready viſitant, ſhould not be treated with neglect, but indulged ſo long as ſhall be found conducive to refreſhment; and where ſleep is leſs liberal of its favours, the repoſe of bed, while it continues eaſy and refreſhing, ſhould not be too haſtily quitted.

Females, being of a more lax, infirm, and irritable habit than the other ſex, require more gentle, and leſs fatiguing exerciſe; as do alſo men of delicate, enervated, and irritable conſtitutions, than men of robuſt fibres, and an unenfeebled nervous ſyſtem. On the other hand, men of ſtrong and vigorous conſtitutions receive leſs injury from temporary interruptions of exerciſe, than the delicate and infirm.

THE *general effect of exerciſe* of all degrees, and upon all conſtitutions, is immediately to quicken, and invigorate the circulation. This it does by means of the action of the muſcles, which, when in a ſtate of contraction,

traction, not only preſs upon the larger neighbouring veins, and variouſly ſqueeze and agitate them by the motions of the body and limbs, but force out the blood diffuſed through their own ſubſtance into the veins going from them; which is again ſupplied by the arteries during their relaxation, and again forced into the larger veins by the repetition of their contraction. The blood being, by theſe means, propelled more rapidly through the venous ſyſtem, is returned in greater quantity than in a ſtate of reſt, in a given time, to the heart; whoſe right auricle, and ventricle, being filled more ſpeedily, and more diſtended, contract with greater vigour, and at ſhorter intervals; produce the ſame change in the action of the left auricle and ventricle; whence the blood is ſent with greater frequency, celerity, and force, through the large arteries; and the action of the ſmaller ones, by whatever power the circulation is carried through them, is accelerated, in proportion as a larger than ordinary ſupply, demanding

demanding a quicker paſſage through them, ſtimulates them more urgently to action. It is alſo a general effect of exerciſe, to promote, by this increaſe of the circulation, the generation of animal heat; to keep the whole ſyſtem of veſſels active and permeable; to quicken reſpiration; and to increaſe the excretion of perſpirable matter from the ſurface of the lungs, and of the ſkin.

EXERCISE may be conſidered as of three degrees,——VIOLENT,——MODERATE,——and DEFECTIVE.

VIOLENT EXERCISE may be injurious in two ways; either by an exceſs in *degree*, or by an exceſs in *duration*.

VIOLENT exerciſe of *every kind* has a tendency to injure health. It occaſions too much labour of the muſcles, of the heart, and of the whole vaſcular ſyſtem; too great exertions, and waſte of power, of the nervous ſyſtem; and too violent attrition, and abraſion,

abraſion, and too great rigidity of the ſolids; it induces too firm a texture of the blood; diſſipates its fluid parts by immoderate perſpiration; tends to generate the rigid, athletic, and inflammatory tones; and, when exceſſive, diſturbs all the ſecretions, and excretions; impedes digeſtion, and nouriſhment; excites burning heat; produces fevers, inflammations, quinſies, defluctions, pluriſies, hemorrhages, conſumptions, incurable debility from over-exertion, and a variety of other conſiderable, and dangerous diſorders.

EXERCISE which is *exceſſive in degree* can conſiſt only in momentary, or at moſt in no very long continued exertions; as in violent efforts of ſtrength, or ſpeed, in lifting, carrying, wreſtling, cricket-playing, jumping, running, or the like; which tend to occaſion ruptures, hemorrages, fevers, inflammations, and other immediate, and violent diſorders; as well as greatly to diſturb all

all the natural functions, and give rise to such changes, as sometimes lay the foundation of very troublesome chronic disorders.

THE *excessive in duration* has less violent effects in proportion as it recedes from the excessive in degree. It tends to produce more gradual changes in the system, and rather to injure by exhausting, and wearing out, the body, inducing too early rigidity, and the other symptoms of premature old age, than by causing those sudden, and alarming effects, which are the common consequences of such exercise as is pursued with an excess of eagerness, and impetuosity, and greatly errs in degree.

MODERATE EXERCISE is, in its effect upon the body, more benign and salutary, and tends as powerfully to promote health, and prolong life, as violent exercise tends to injure the one, and to shorten the other. It produces a due degree of celerity, and vigour, of circulation; keeps the whole vascular system alive and permeable, without exciting too

too great impetuosity of action, or pushing any of the fluids into vessels which ought not to receive them; generates temperate heat; promotes the whole operation of digestion ——the effusion of the gastric fluid into the stomach——the action of the stomach and surrounding parts upon the aliment——the propulsion of the aliment into the intestines ——the plentiful afflux of bile, and of the pancreatic and intestinal fluids——the ready performance of the peristaltic motion——the absorption of chyle by the lacteals——and the speedy expulsion, by stool, of the feculent, and excrementitious matter, which, by delay, might contaminate the chyle with less pure, and less nourishing particles. The blood, thus impregnated with recent, and wholesome chyle, is carried by moderate exercise, in a gentle, steady, and unceasing current, as well through the whole system of capillary, as through the larger arteries; and not only the particles adapted to the purpose of each secretion are regularly, and uniformly conveyed

conveyed to the organs, and veſſels, deſtined for the offices of ſecreting, and collecting them into their proper receptacles; but ſuch as, having performed their parts in the animal œconomy, are now become uſeleſs, or injurious, and recrementitious, are readily, and ſpeedily, carried off, in the form of urine by the kidneys, and in that of ſenſible, and inſenſible perſpiration, and ſenſible phlogiſton, by the lungs, and by the whole ſurface of the body; and every part of the body is at the ſame time plentifully nouriſhed; the inceſſant waſte of that on which the nervous power depends is perpetually ſupplied; and the firm, healthful, and vigorous tones, are generated.—In a word, every vital, natural, and animal action, is performed with facility, and effect; and the man enjoys, ſo far as bodily health can ſecure enjoyment,—if he be conſtitutionally healthful, and has entered upon a courſe of exerciſe before his health has by any means been eſſentially injured, and if to moderate exerciſe be joined regularity,

and

and temperance,—together with good and perfect health, a proportional degree of perfection of ſenſation, and voluntary motion, of the mental powers, of bodily comfort, and of intellectual ſerenity.

BUT all theſe invaluable bleſſings are thrown away by the indolent, and inactive, whoſe unhappy, and often inexcuſable, DEFECT OF EXERCISE, is the ſource of not leſs pernicious, though, for the moſt part, leſs ſudden, and alarming evils, than its violence, and exceſs.

DEFECT of exerciſe, by withholding the compreſſing, agitating, and propelling, action of the muſcles, both on the capillary, and on the large veſſels, returns the blood leſs copiouſly to the heart, ſtimulates that organ leſs forcibly to contraction, renders it incapable of projecting the blood with vigour, and in plenty, to the capillary veſſels, which, while the heart thus acts with too little power to enſure a paſſage into their beginning ramifications

ramifications, and to urge them into contractions, oppoſe to its enfeebled efforts the blood already ſtagnating in them, and increaſing the reſiſtance to its influence, for want of the propelling aid of muſcular action. The force, and extent of the circulation being thus diminiſhed, the fluids ſtagnate, and degenerate, the blood becomes thick, black, and glutinous, or, in great degrees of degeneracy, thin, pale, and watry, and in both caſes leſs fit for ſecretion; the capillary veſſels become leſs permeable, and ſome perhaps are obliterated; digeſtion languiſhes; nouriſhment is ill prepared, and ill applied; the body is emaciated, or is bloated with unhealthy corpulency, or deluged, and ſwollen, with watry fluids; the ſecretions, and excretions, languiſh, or are diſturbed; heat is diminiſhed; the tones become lax, infirm, and nervous; and the man is ſunk in ſloth and indolence, depreſſed with feebleneſs, and languor, teazed with exquiſite irritability, or tormented with a variety of gouty, rheumatic, ſpaſmodic,

ſpaſmodic, and other pains. They who have long indulged in inaction, are ſometimes ſo weakened by it, as ſcarcely to be capable of making uſe of a degree of exerciſe, which, had it never been intermitted, would have preſerved that health, to the regaining of which it can now, perhaps, either never be applied, or to which, if fortunately it can be applied, there is little room to hope that it can ever reſtore its original firmneſs, and perfection. How commonly do we ſee perſons who have long been habituated to a ſedentary life, greatly diſordered even by moderate exerciſe. The heart, weakened and rendered more irritable, with the reſt of the body, is incapable of ſuſtaining the unuſual afflux of blood occaſioned by a little extraordinary muſcular motion, and is perpetually irritated into convulſive, but too feeble, and ineffectual contractions; the lungs, unaccuſtomed to the paſſage of ſo copious a ſtream of blood through them, expand with labour, and tranſmit it with difficulty. Such perſons, therefore, on uſing exerciſe,

exercise, and especially that of walking, breathe short, and with much difficulty, and sometimes with a sense of oppression little short of suffocation; their hearts palpitate; and they are often unable to proceed without immediate danger of fainting. These painful effects of exercise are so much the greater, if, to the debilitating influence of inaction, has been united a naturally delicate constitution, or some such disorder as has a direct tendency to produce debility, or to obstruct the regular action of the heart, or to prevent the free passage of the blood through the lungs.

But no where are the injurious consequences of a defect of exercise more considerable, than in that part of the animal œconomy, which, being destined to the office of preparing the daily refreshment, and nourishment, of the body, is the very fountain of life, health, and vigour; and cannot be disordered but the whole machine must suffer. For indigestion, flatulency, acidity, and

and an endleſs variety of other diſorders of the firſt paſſages, and of the parts connected with them, are the natural offspring of inaction; and while they add to the numerous progeny of ills of which it is the parent, they nouriſh, and ſtrengthen, moſt of the other complaints which are derived from the ſame origin.

THE means by which a defect of exerciſe impedes the proceſs of digeſtion are as various as thoſe by which moderate motion promotes it; and are, indeed, exactly the reverſe. It renders the action of the ſtomach, and inteſtines, weak and languid;—it debaſes the qualities of the gaſtric, pancreatic, and inteſtinal fluids, and of the bile;—and it obſtructs the affuſion, and due mixture with our aliment, of theſe powerful, and neceſſary agents, in its digeſtion, and aſſimilation.

DEFECT of exerciſe weakens the ſtomach, and inteſtines, by preventing the gentle

tle concuſſion, and agitation, which they would receive—from the moderate motion of the body in general; from the increaſed action in particular of the muſcles of the belly, and of thoſe concerned in reſpiration; and from the ſtronger pulſation of the arteries through the whole vaſcular ſyſtem, which while it would invigorate their tone by invigorating the whole animal machine, would act, within the cavity of the abdomen, as a ſtimulating cauſe immediately upon the bowels themſelves. It alſo weaken the ſtomach, and inteſtines, by variouſly injuring the proper nouriſhment, leſſening the excitement, lowering the nervous power, and impairing the tones, of the whole body. In a word, a defect of exerciſe weakens the action of all the inſtruments of digeſtion, by diminiſhing the agitation, and ſtimulus, of extrinſic cauſes, and at the ſame time enfeebling their healthful tones, and leſſening their inherent powers.

By the ſame means an indolent, and ſedentary

dentary life, obſtructs the affuſion, and debaſes the qualities, of the gaſtric, and pancreatic juices, of the bile, and of the fluid of the inteſtines. Inaction diminiſhes all the ſecretions, and of courſe prevents a ſufficient ſupply of theſe invaluable fluids, ſo indiſpenſably requiſite to good digeſtion; and while it hinders this important proceſs by defrauding it of ſuch powerful agents, and by diminiſhing the tones of the ſtomach, and inteſtines, and thus injures the chyle in its firſt preparation; the enfeebled tone of the vaſcular ſyſtem renders it incapable of correcting the errors of the firſt concoction, of elaborating a crude chyle into good and healthful blood, or of ſeparating from it, by ſecretion, fluids perfect in their kind.

THE natural, and unavoidable conſequences of theſe primary deviations of the animal œconomy ariſing from a ſedentary life, ——of the weakened tone of the inſtruments of digeſtion on the one hand; and of the ſcanty ſupply, and degenerate condition, of the fluids

fluids concerned in this important proceſs, on the other;——are, that the aliment, remaining long in the ſtomach, paſſing ſlowly through the cavity of the inteſtines, and being deprived, in a great meaſure, of the neceſſary aid of ſuch powerful ſolvents, and correctors, will undergo, in proportion to the deficiency, ſuch ſpontaneous changes as it would, in the ſame degree of warmth, moiſture, and confinement, out of the body; and, becoming acid, rancid, or putrid, but particularly ACID, in a greater or leſs degree according to the nature of the aliment, and the degree of debility, will, while it ſupplies the ſyſtem with a leſs perfect, and leſs wholeſome chyle, produce by its flatulency, and acrimony, frequent eructations of various kinds, loſs of appetite, nauſea, unnatural cravings, ſharp pains, and ſometimes enormous diſtentions of the ſtomach and inteſtines, which will occaſionally find a little relief by the evacuation of wind, or the termination of a great degree of coſtiveneſs, at uncertain interval, in ſpontaneous purging; or

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be prolonged, and aggravated, by a coſtiveneſs ſo obſtinate, and ſo total an incapacity of theſe organs to evacuate the offenſive matter, as rarely to admit even of that temporary relief. In this ſituation the evil increaſes; the confined matter will become more acrimonious, will generate unceaſing ſupplies of flatus which can neither be expelled, nor ſubdued, and together with all the other enfeebling and painful effects of a ſedentary life, the diſtreſſing ſymptoms of indigeſtion will receive, daily, accumulated, and reciprocal increaſe, as long at leaſt as the inaction to which they owe their origin continues: this diſordered ſtate of the bowels increaſing the weakneſs of digeſtion, the increaſed weakneſs of digeſtion rendering the chyle ſtill more crude, the greater crudity of the chyle producing leſs nutritious blood, leſs nutritious blood adding to the weakneſs of the tones, and the growing weakneſs of the tones yet farther debaſing the fluids ſecreted, and both directly, and indirectly, rendering the digeſtion leſs perfect, and ſtill multiplying, and aggravating,

aggravating, all its painful, contaminating, and debilitating conſequences.

NOR does the miſchief end here. Theſe, though ſufficiently grievous, are not the only evils which theſe and the neighbouring parts experience, from the want of an uninterrupted ſeries of gentle exerciſe, and agitation. Such is the nature, and condition, of that part of the vaſcular ſyſtem which is diſtributed through the ſeveral organs concerned in the great buſineſs of digeſtion, and returns the blood from the inteſtines, ſpleen, pancreas, and omentum, to the liver, that being little aſſiſted by any immediate muſcular action in theſe ſoft parts themſelves, of which the inteſtines alone ſeem to poſſeſs any, the paſſage of the blood through them, its conveyance to the vena portarum, and diſtribution to every conceivable point of ſo large a ſubſtance, for the ſecretion of the bile, by veins only, which, whatever power of action they may poſſeſs themſelves, can receive no aid from the action of the heart, are

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at beſt but ſlow, and depend, in a great meaſure, even for that ſlow progreſſion, on the action of reſpiration, the various ſuccuſſions, and agitations, of the contents of the belly, and the perpetual employment of the abdominal muſcles, during motion, and exerciſe. This naturally ſlow and languid progreſſion muſt, therefore, in a long courſe of inaction, almoſt ceaſe; and the blood, which will continue to be ſent in as large, or nearly as large a quantity, as uſual, to theſe parts, by the heart, ſtagnating, and accumulating, will not only increaſe the miſchiefs already mentioned, but conſpire with them to produce every kind of obſtruction, and every diſorder ariſing from this cauſe, of which they are ſuſceptible; as indurations, and enlargements, of the meſenteric glands, a ſcirrhous ſtate of the pancreas, ſpleen, omentum, and liver, ſtones in the gall-bladder and kidneys, irritation, heat, pain, inflammation, gangrenes, and abſceſſes, in the ſtomach, inteſtines, liver, and other ſurrounding parts liable

liable to be affected by this accumulation of blood in the veins connected with the vena portarum: and will at the ſame time occaſion other diſorders which are the more immediate, and peculiar, effects of ſuch accumulation, as the piles, *morbus niger** of HIPPOCRATES, and all the troubleſome, dangerous, and ſometimes fatal complaints, which may ariſe from the diſtention, or rupture, of the veins within the cavity of the belly.

FLATULENCY, indigeſtion, and acidity, the firſt ſigns of injury in the ſtomach and inteſtines, are eſſential ſymptoms of the *hypochondriacal diſeaſe*; which, when it riſes to any very high degree, is ſo commonly accompanied with ſymptoms of Inſanity, that one of its ſpecies has generally been known by

* See a deſcription of this diſorder, by HIPPOCRATES, or whoever was the author, in the treatiſe *De Morbis*, inſerted among his works; book the *ſecond*. — HIPPOCR. Oper. p. 468. 50.——See alſo above, p. 16, note (19).——Alſo, "*A Letter from* Dr. TISSOT *to* Dr. ZIMMERMAN, *on the Morbus Niger*," which contains ſome caſes of this diſorder.

by the denomination of *hypochondriacal Melancholy*.

IF the damp, impure, and ſtagnating air, of woods and marſhes, or of any place in a low and moiſt ſituation, as is aſſerted by BOERHAAVE,¶ and his COMMENTATOR;† if noxious, and bituminous vapours of this ſort, and mineral exhalations from neighbouring

¶ "Aer ſtagnans, paluſtris, umbroſus."——*Aph.* § 1108.

† "Præterea plurima ſigna § 1094 recenſita, quæ atrabiliariam ſanguinis cacochymiam denotant, obſervantur in illis hominibus, qui paludoſa & depreſſa loca incolunt. Color enim pallidus, flaveſcens, maculæ in cute, torpor ad motus, mœſtitia, &c. ſatis communia ſunt talibus, uti in integris militum cohortibus obſervatur, qui antea ſaniſſimi coguntur in ſimilibus locis ſtationem figere." VAN SWIETEN *Comment.* in § 1108. Tom. III. p. 505.

"*Moreover many of the appearances enumerated at ſection* 1094, *which point out an atrabilious degeneracy of the blood, are obſervable in ſuch perſons as live in low marſhy ſituations; in whom a pale ſallow complexion, blotches in the ſkin, indiſpoſition to motion, dejection, and the like, are no uncommon ſymptoms; as has been obſerved in whole regiments of ſoldiers who were in perfect health when firſt ſtationed in ſuch places.*

ing mines, which LORRY‡ imagines may be one cauſe why nervous Melancholy is ſo peculiarly familiar in Britain; or if air impregnated with any other kind of affluvia, as that of populous cities, contaminated, and rendered leſs fit for the purpoſes of reſpiration, and the wellbeing of animal life, by the breath, and other unwholeſome affluvia of men, and brutes, by putrefaction, fire, and an immenſe variety of other noxious vapours, and vitiating cauſes;——If theſe, and ſuch like, conditions of the air, have a tendency to produce Inſanity, they muſt operate, like many of the other cauſes enumerated under this general diviſion, by injuring the

‡ "Minerarum vicinia, halitus e paludibus noxiis bituminoſis, dum aerem inficiunt, Melancholiæ favent, quod forſan una eſt e cauſis cur *ſua Britannis* competat *Melancholia* nervea."—— *De Melancholia.* Tom. I. p. 86.

"*The neighbourhood of mines, and the noxious bituminous vapours of marſhes, contaminate the air, and favour the production of Melancholy; which, perhaps, is one cauſe why nervous* Melancholy *is ſo* peculiar to the inhabitants of Britain."

the vital functions, gradually debilitating the whole ſyſtem, inducing the lax, infirm, and nervous tones, and rendering us liable to all their numerous ill conſequences; among which the hypochondriac Melancholy of the antients, and various other kinds of Inſanity, hold no inconſiderable rank.

PERHAPS *intenſe cold*, if it ever contributes to the production of Inſanity, does it, for the moſt part, in the ſame remote way, by firſt inducing debility; and rarely, if ever, by any ſudden, and immediate influence of the ſpaſm excited in the veſſels on the ſurface of the body, and the conſequent increaſed determination of the blood to the brain.

COLD produces various effects upon the cutaneous, and other ſuperficial veſſels, according to the degree of its intenſity, and the ſtate of the body on which it acts. Even when it is not very intenſe, it will excite a general ſpaſm in the capillary arteries on the ſurface

ſurface of the body, in people of lax, infirm, and nervous tones, and unleſs counteracted by exerciſe, even in thoſe of firm, vigorous and healthful tones; but if the bodily warmth be kept up by exerciſe, perſons in health, and vigour, have the circulation in the ſmall arteries rather ſtimulated into accelerated action, while that of the veins, is perhaps, diminiſhed, as ſeems probable from the ſwelling of the face and extremities, and their florid, and ſometimes even livid appearance, by a moderately cold, if at the ſame time it be a dry air. In like manner intenſe cold, at firſt increaſes the action of the capillary arteries in perſons of firm, healthful, and vigorous tones; but when exceedingly intenſe, and long endured, diminiſhes their irritability, produces torpidity, ſtagnation, ſpaſm, inſenſibility, determination to the internal parts, and among others to the head; and both by its immediate diminution of irritability, and by the accumulation of blood in the brain, brings on drowſineſs, a total abolition of nervous

vous power, and of animal life. It appears, therefore, exceedingly probable that cold, under certain circumſtances, debilitates, by diminiſhing the nervous power on the ſurface of the body,—that is, within the ſphere of its immediate influence,——and abating irritability; and by exciting a ſpaſm in the capillary arteries, which, while it tends to debilitate the veſſels themſelves thus ſpaſmodically affected,——ſpaſm naturally producing debility, and debility ſpaſm,——induces general debility by determining the blood too copiouſly to the brain, and diſturbing the functions of the very organ from whoſe regular procedure the whole body derives its regular ſupplies of nervous power.

DEBILITY thus produced, if the cauſe be accidental, and either not exceſſively intenſe, or its action of no long continuance, may be only tranſient, and leave no laſting traces; but if it owe its exiſtence to cold which is permanent, or which frequently recurs

curs, and is of an intenſe degree, it may give riſe to the other cauſes of debility, or aggravate the effects of ſuch as already exiſt, and perhaps lay a laſting foundation for depreſſion of ſpirits, anxiety, diſtreſs, and Inſanity; as ſeems to have been the caſe of the perſon, the hiſtory of whoſe curious, and obſtinate diſorder, originating from the violent action of intenſe cold, has already been quoted from HOFFMAN.* His nervous ſyſtem had long been injured by a variety of cauſes: he had lived freely in his youth; had ſometimes indulged in drinking to exceſs; and for ſeveral years before he ſuffered ſo ſeverely from expoſure to cold, had applied ſo cloſely to a multiplicity of important buſineſs, which had obliged him to ſpend almoſt his whole time in ſitting, and thinking, that his health had begun to decline, though not ſo much as to alarm him with any ſerious complaints. In

* *Diſſertat. Medic. ſiſtens Affectum Spaſmodico-Hypochondriacum inveteratum.* Oper. Supplem. Secund. Part. Secund. p. 235.

In this ſtate of incipient debility, he was expoſed to intenſe cold; of how long continuance is not ſaid, but its firſt effects were violent, and alarming, and gave a ſhock to his conſtitution, which he never recovered. Inſanity, indeed, was not the immediate conſequence: but hypochondriacal ſymptoms ſoon made their appearance; and, by a continuation of his bodily inactivity, and mental application, aided by an injudicious, and debilitating medical treatment, they were ſo much increaſed, in the courſe of about three years after his ſevere ſuffering from cold, that, in the night, his ſleep became extremely unquiet, and was diſturbed with anxious and terrifying dreams; which were ſucceeded in the day time, by a degree of grief, and melancholy, which he was unable to overcome, or to reſiſt.

In ſhort, if there are any other agents, not here enumerated, which have a conſiderable propenſity to weaken the tones, and induce

duce languor, torpor, and debility, all ſuch inſtruments of gradual change in the body may very properly be reckoned among the remote cauſes of Inſanity.

IV. *Cauſes ſeated in, or primarily affecting, ſome particular parts, and giving riſe to Inſanity, either by acting* ſpeedily *upon the brain, as by ſympathy, or tranſlation; or by operating more* ſlowly, *and producing ſuch a gradual change in the conſtitution as diſpoſes to Inſanity.*

1. THERE appears not only to be a general ſympathy between every irritable, and ſenſible part of the body, by means of ſenſation: but alſo certain leſs general, though not leſs important, or leſs conſpicuous ſympathies, which have ſome only a partial, and limited, and ſome a very extenſive, and almoſt unbounded influence over the whole animal ſyſtem; often, and perhaps moſt commonly, by the mediation of irritability alone, but not unfrequently by the united operation of both irritability, and ſenſation.

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SYMPATHIES of the *former* kind are conſpicuous in all caſes of lively ſenſation, or violent pain: the very extenſive, and almoſt univerſal diffuſion of whoſe influence over every ſenſible part of the body, and perhaps, every fibre capable of muſcular contraction, is either *immediate*, and *involuntary*; as in the general ſpaſm of the capillary arteries, and of the muſcular fibres, on the application of cold to a particular part, or the contrary, and antiſpaſmodic effects, of the partial application of warmth, or, in the univerſal ſpaſm, paleneſs, and exceſſive coldneſs in ſome caſes, and the great heat, fluſhing, and profuſe perſpiration in others, of violent pain;—— or, though ſcarcely reſiſtible, is *indirect*, and by the *voluntary*, or rather ſemivoluntary, mediation, of the mind; as in groaning, holding of the breath, violently contracting all the voluntary muſcles, biting the lips, and the like general effects of pain; or it is the natural reſult of theſe effects, and of the ſtructure and functions of the parts, ſuch as the burſting of blood veſſels, hernial ruptures, wearineſs, debility, and ſometimes almoſt

moſt paralytic ſtate of the muſcles, involuntary evacuation of urine, and ſtool, and in ſome meaſure, perhaps, increaſe of heat, and profuſe ſenſible perſpiration.

OF the *latter* kind is the ſympathy which ſeems to ſubſiſt between every internal organ of the human body, and almoſt every other part of that curious, and wonderful, animated machine. This may, poſſibly, in ſome inſtances, be, in part, accounted for, from the vicinity, connection, and mechanical ſtructure, of the parts concerned; as in the mutual ſympathy between the bladder and the rectum; between the bladder and the glans penis, when a ſtone, or ulcer, in the former, excites a ſenſe of pain in the latter; between the gall bladder and other parts contained within the cavity of the belly, and the ſtomach; between the neighbouring parts of the ſame membrane,—inflammation ſpreading more readily along the ſame continued and uniform expanſion, than to parts more diſtant, leſs connected, or of a diſſimilar ſtructure; between

between the eyes and the noſe, a ſtrong light ſuddenly falling upon the former often giving occaſion to ſneezing by exciting a ſympathetic ſenſation in the latter; between the ſchneiderian membrane of the noſe, and its continuation in the throat, windpipe, and lungs, a cold which begins with a running in the head, not uncommonly terminating in a cough, and a defluction upon the breaſt; between the two eyes, an inflammation, or other diſeaſe, of one, being often ſucceeded by a like diſeaſe of the other; between the ſame parts of both eyes, producing an uniform motion of their muſcles, and pupils; and between different parts of the ſame eye, as between the pupil and retina, the former contracting, or dilating, as the latter is variouſly affected by a ſtronger, or a weaker light. But even in theſe inſtances, ſince other parts of a ſimilar ſtructure, equal vicinity, and as intimate connection, are not in like manner affected, the ſympathy ſeems chiefly, and is, probably, in many, if not in moſt inſtances, ſolely,

ſolely, to be referred to certain laws of the animal economy, which act merely by the nervous power, and of which we can better prove the exiſtence, than determine the ſpecific nature, or demonſtrate the mode of operation.

THIS ſympathy is no where more remarkable, or extenſive, than between the parts contained within the cavity of the belly, and the other parts of the human body; and of theſe the ſtomach, the whole alimentary canal, and the womb, have, in the frequency, variety, and magnitude, of their ſympathetic influence, the natural conſequence of their high, and important offices, greatly the preheminence: the two former, as being principally, and eſſentially, concerned in the daily preſervation of life, and the diſtribution of health and vigour to the body of every individual; and the latter, as being no leſs neceſſary to the multiplication of the ſpecies, and having no inconſiderable concern in the wellbeing, and even in the life, of the mother,

ther, and her infant offspring, by its great and wonderful influence over ſeveral parts of the female economy, by the deviations of which from the regular performance of their proper offices, fruitfulneſs may be prevented; or the infant, puny from its birth, or blaſted by an unwholeſome nouriſhment, may wither and decay; or the mother's health may be materially injured, or totally deſtroyed.

WHILE the ſtomach receives the food, in order to diſſolve, and concoct it, to tranſmit it thus prepared to the inteſtines, where it is to be farther changed, and fitted for reception into the lacteals, from thence to be conveyed into the blood, aſſimilated into its nature, diſtributed by the circulation to every part of the body, and converted, by nutrition, into its very ſubſtance; it communicates, by a wiſe, and wonderful contrivance of the benevolent author of nature, immediately, and by ſympathy, that refreſhment, and vigour, which might often arrive too late for the repair, and preſervation, of the exhauſted

hauſted machine, were it delayed till the aliment had gone through the tedious operations of theſe long aſſimilating proceſſes. And it is, indeed, probable, that in the whole courſe of the inteſtinal tube, when it is in a ſound and healthful ſtate, and chylification and digeſtion proceed eaſily, and well, ſuch muſcular and vaſcular tones are excited, as tend to produce eaſe and vigour by exciting ſimilar tones through the whole muſcular and vaſcular ſyſtems of the animal. For eaſe, and vigour, and a due performance of the natural functions, ſeem to be reciprocal. When, therefore the tone of theſe organs is much diminiſhed, or when they are in any other reſpect greatly diſordered, as in hypochondriacal languor, and indigeſtion, in fevers, in inflammations of the bowels, or the like, the body neither experiences immediate, nor conſiderable refreſhment, on the reception of aliment into the ſtomach, which on many occaſions it even immediately rejects; nor is afterwards properly nouriſhed, and invigorated, by a well digeſted, wholeſome, and nutritious

nutritious chyle: but remains languid, and relaxed, and, inſtead of eaſe and vigour, is harraſſed with pain, and depreſſed with wearineſs and debility; and theſe diſagreeable feelings are greatly aggravated, if the organs of digeſtion are irritated by acrimonious; overloaded and oppreſſed by too heavy and indigeſtible, or too copious; or diſtended by too flatulent aliment: not to add that whatever irritates, overloads, or diſtends the ſtomach and inteſtines, and impedes digeſtion, increaſes the weakneſs of theſe organs, and of courſe aggravates the debility, and uneaſineſs of the whole frame, to which their weakneſs was but too much diſpoſed to give riſe without the aid of any ſuch additional cauſe. But how the lax, infirm, and nervous tones, painful ſenſations, and bodily diſeaſe, eſpecially of what is called the nervous kind, are naturally connected with peeviſhneſs, Melancholy, horror, and deſpair, has already, in ſome degree, been explained, and will receive

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ſtill farther illuſtration from what is to follow.

IT is from this ſympathy between the ſtomach and inteſtines, in particular—to ſay nothing at preſent of the other contents of the abdomen—and the reſt of the body, that the hypochondriacal diſorder, ſo troubleſome to ſtudious, and ſedentary perſons, derives many of its worſt, and moſt alarming ſymptoms. From this ſource proceeds that ſort of Inſanity, which, from the apparent ſeat of the complaint, and the concomitant ſymptoms, has uſually been denominated *hypochondriacal Melancholy*. And though the *hyſterical diſeaſe* has, perhaps, a different origin, and its eſſential ſymptoms are very different, it is often accompanied with the like diſorder of the firſt paſſages; and beſides its tendency to occaſion delirium during the paroxyſms, is likewiſe diſpoſed to give riſe to it in the intervals; as well by the ſecondary action of this local relaxation,—in injuring the tones by injuring digeſtion and nouriſhment;—as by its immediate

immediate ſympathetic operation upon the muſcular, vaſcular, and nervous ſyſtems, and the direct effects thence reſulting upon the tones, and feelings, of the body.

As the pylorus, pancreas, meſentery and meſenteric glands, liver, ſpleen, hemorrhoidal veſſels, kidneys, atrabiliary glands, omentum, peritoneum, and other parts adjoining, have all a nearer or more remote connection with the immediate organs of digeſtion, and chylification, it is reaſonable to ſuppoſe, of ſome of them at leaſt, that, beſides a tendency to promote the production of Inſanity, when diſeaſed, by the immediate ſympathy which ſubſiſts between them and the reſt of the ſyſtem, they may, in proportion to the cloſeneſs, and intimacy, of their connection with thoſe organs, have that tendency increaſed,——in conſequence of the obſtruction, which, by the imperfect performance of their proper functions, they may be capable of giving to thoſe of the ſtomach, and inteſtines; and of the power they may thus poſſeſs of as much

much weakening their tone, and impeding digeſtion, in their diſeaſed ſtate, as they are qualified topromote the one, and invigorate the other, when themſelves are ſound, and vigorous.

IT has been ſeen, in the enumeration of the appearances on diſſection, that all theſe parts have been found diſeaſed in one caſe or another; and many inſtances, of a ſimilar kind, might eaſily be adduced from practical writers, in which ſome, or other of them, have appeared to act as exciting cauſes of Inſanity; and which, at leaſt, render it certain that a diſordered ſtate of all, or moſt, of theſe parts, has occaſionally accompanied Inſanity, whatever ſhare it may have had in its production. Nor will it ſeem wonderful that ſuch great, and apparently remote effects, ſhould be attributed to the irritability of theſe very ſenſible parts, and their ſympathy with the reſt of the body, when it is conſidered that not only delirium, but even death itſelf has frequently been the ſpeedy, and ſometimes almoſt the immediate conſequence

quence of exceſſive pain from a violent blow on the ſtomach, belly, and ſome other parts of exquiſite feeling; or from any other external violence, or from internal diſeaſe, in theſe parts; when, upon diſſection after death, it has *ſometimes* happened, that not the ſmalleſt, and *often* that no apparently very material, or adequate injury, has been found. Of facts of this ſort I do not recollect to have ſeen many very ſtriking, or uncommon examples myſelf; but have been told of ſuch by very capable, and credible, eye witneſſes; and have not unfrequently met with them in medical books. BOERHAAVE mentions ſeveral inſtances of pain, delirium, and death, ſpeedily ſucceeding accidents; of violent delirium and ſudden death, occaſioned by painful diſorders; and of other ſurpriſing, and inſtantaneous conſequences of exquiſite pain, in theſe parts; in which theſe great, and violent effects, can only be attributed to the wonderful, but obſcure, and inexplicable, influence of ſympathy: for they can ſcarcely be

be ſaid to be accounted for by *ſuppoſing*, ſince we can *only ſuppoſe*, that the vibrations excited in the nerves, and brain, on theſe occaſions, are ſo exceſſive, and predominating, as to overcome, and ſuppreſs, all other nervous vibrations; and of courſe thoſe vibrations on whoſe continuance the vital functions depend; and only to expire themſelves with theſe vibrations, which, having deſtroyed, they could no longer exiſt.——A wound in the belly with a knife, which has neither injured the inteſtines, nor blood veſſels, has been known to occaſion ſpeedy death merely by dividing certain nerves of the meſentery; as we are aſſured by BOERHAAVE,* on the authority of the celebrated RUYSCH, who had ſeen frequent diſaſters of this kind among the Dutch ſeamen. The wound was always ſucceeded by intollerable pain, which was ſoon followed by a hickup, vomiting, delirium, and death.——A countryman,† who followed

* *De Morbis Nervorum*. Tom. 2. p. 424.

† Id. ib. p. 426.

followed the employment of a labourer, fatigued by the exertions of the day, after eating and drinking at ſupper as uſual, went to bed weary, but apparently in perfect health. In the middle of the night he was waked by a violent pain in his bowels, which ſoon becoming exceſſive, he died quite delirious in leſs than four hours. BOERHAAVE¶ himſelf was once waked in the middle of the night, by a ſimilar pain, in the ſame part, which was ſo exquiſite, and intollerable, that he was perſuaded it would have put an end to his life in a few minutes, had he not been inſtantly freed from it, by a medicine, which happen-fortunately to be at hand. And I have known ſeveral caſes of the ſame nature; in ſome of which a ſudden pain of the ſtomach, inteſtines, or biliary ducts, has by its exceſſive violence threatened ſpeedy death, which has happily been prevented by the timely aid of medicine; and in others, a ſudden cramp in the

¶ *De Morbis Nervorum.* Tom. 2. p. 426.

the ſtomach, or ſomething like it, has come on during ſleep, and has terminated in death before proper aſſiſtance could arrive.——An incarcerated hernia, has, in like manner, been known to occaſion excruciating pain, delirium, and death, in a ſhort time; and, on diſſection, the inteſtine has been found ſtrangulated, indeed, but not otherwiſe injured.§ And there are numberleſs inſtances of convulſions, delirium, and death, in painful diſorders, in which the pain ſeems to have been, if not the ſole, yet a principal actor, in the fatal event which enſued.

2. As the parts contained within the belly have a conſiderable ſympathetic connection with each other, and every one in particular with the ſtomach and inteſtines; which ſeem to conſtitute a kind of centre of ſympathy, as the heart does of circulation; ſo they have all a general ſympathetic connection with the reſt

§ Boerhaave *De Morbis Nervorum*. Tom. 2. p. 426.

reſt of the body; which being carried on by means of the nerves, and brain, whoſe well-being, with that of the whole machinery, depends in a great degree upon the wellbeing of the ſtomach, and inteſtines, by which they are ſupplied with daily nouriſhment, it is no wonder that the former ſhould ſuffer when the latter are out of order, and that Inſanity, among a vaſt variety of nervous, and other, complaints, ſhould ſometimes be the offspring of a diſordered ſtate of the alimentary canal.

THE ſtomach and inteſtines ſeem to poſſeſs this ſympathy with the other parts of the body, as for obvious reaſons might be expected, and as has already been accounted for, in the moſt eminent degree; and when much diſordered, and debilitated, are no inconſiderable ſources of Inſanity. Whatever therefore tends to diminiſh the tones of theſe important organs; or, taking its riſe from their diſeaſed ſtate, tends to increaſe the debility which gave occaſion to it; may with great propriety

propriety be enumerated among the cauſes of Inſanity, an effect which ſo often flows from ſuch a ſtate.

OF this ſort, to mention no others, are *—hard and indigeſtible aliment,—the immoderate uſe of warm diluting liquors,—intemperance in diet of any kind,—viſcid phlegm,*—and *worms.*

ALL theſe cauſes ſeem to act, in the production of Inſanity, partly by generating an unwholeſome chyle, and bringing on a diſeaſed ſtate of the blood;—for ſuch a ſtate of that important, and neceſſary fluid, may doubtleſs produce ſome effect of this kind, by diminiſhing the genera health of the body, bringing on, or aggravating, nervous ſymptoms, and exciting a variety of uneaſy ſenſations;—and partly, and perhaps principally, by debilitating the ſtomach and inteſtines, and weakening their tones. Hence it is that acidity, and flatulency, in the firſt paſſages, are ſo univerſally reckoned by the antients among the principal, and moſt conſpicuous

ſpicuous ſymptoms, of *hypochondriacal Melancholy*; the former indeed appears to have been no other than the *atrabilis* of GALEN, which, he ſays,—"when thrown up from "the ſtomach by vomiting, has an acid taſte, "and ſmell."*

Hard and indigeſtible aliment lies long in a weak ſtomach, and is not eaſily overcome, or evacuated, by the ſtrongeſt; if, therefore, it be frequently taken into the ſtomach already either habitually infirm, or rendered ſo by ſome recent diſeaſe; or if it be cuſtomarily taken in too large a quantity into a ſound and healthful one; it loads the firſt paſſages; creates flatulency, and acidity; weakens the tone of the ſtomach and inteſtines when it found it ſtrong, and ſtill farther debilitates it when it found it weak,—by diſtention; by fruſtrating

* "Vomentibus ipſam, & olfacientibus, videtur acida."—*De Locis Affectis*. Lib. 3. cap. 3. LACUNÆ *Epitom*. p. 741. l. 20.

fruſtrating their perpetual efforts to ſubdue, and convert into wholeſome chyle, the inſoluble maſs that oppreſſes them; and by defrauding the whole body, and of conſequence the alimentary canal itſelf, of its due portion of good, and proper, nouriſhment. Theſe effects are daily aggravated, and, as the debility, ſo the oppreſſive load, is increaſed, in a growing proportion, ſo long as the ſame kind of diet is continued: and eſpecially, if, to a diet of difficult digeſtion, be added a want of ſufficient bodily exerciſe, intemperance in the uſe of vinous and ſpirituous liquors, grief, anxiety, cloſe application of mind to ſtudy or buſineſs, or other debilitating cauſes which have an immediate tendency to injure the tone, and obſtruct the operations, of the organs concerned in the buſineſs of digeſtion.

AMONG aliments that are hard, and of difficult digeſtion, may be enumerated all ſalted, dried, and rancid meats; the fleſh of all animals which is become tough with age, or labour; all the membranous, tendinous, and cartilaginous parts of animals; fat, oil, and butter

butter, of all ſorts, and in every form; cheeſe of every denomination, and quality, but, in particular, ſuch as is poor and horny, or, if rich, is new, heavy, and glutinous; peas, beans, and every kind of pulſe; all unfermented farinacious ſubſtances; paſtry of all ſorts, and even bread while quite new; almonds, cheſnuts, walnuts, hazel nuts, filberts, and all other nuts and kernels; unripe, acid, and auſtere fruits, and eſpecially ſuch as are of a firm texture, and abound in inſoluble matter, as many kinds of plumbs and pears; cucumbers; acids; pickles of all varieties; and every ſubſtance which, at the ſame time that it is hard, and of difficult ſolution, affords but a ſmall portion of matter capable of being converted, by the ſtrongeſt ſtomach, into good nouriſhment.

THE *immoderate uſe of warm diluting liquors* is found by experience greatly to relax the tone of the ſtomach, and inteſtines; to render food, even of moderately eaſy ſolution, too heavy for their enfeebled efforts, and not to be digeſted but with uneaſineſs and difficulty

difficulty; and hard, and unyielding aliment, almoſt perfectly inſoluble. It muſt, therefore, have a powerful tendency to debilitate the whole muſcular, and vaſcular ſyſtems; and to bring on all thoſe bodily indiſpoſitions which ariſe from the infirm tones, are calculated to affect the mind with timidity, anxiety, and dejection, and have a peculiar propenſity to become remote cauſes of Inſanity.

But of all the remote cauſes of this diſorder arranged under the diviſion in the table now under conſideration, there is not a more powerful one than *intemperance*; which if indulged in the uſe of food in its own nature productive of ſuch injury, both in the firſt paſſages, and in the general habit of body, as has a tendency to give occaſion to Inſanity, will much increaſe that tendency: ſince great exceſs *in diet of any kind*, even the moſt wholeſome and nouriſhing, and of the moſt eaſy digeſtion, may, it is obvious, produce the ſame effects, if long and habitually perſiſted in, as food of difficult digeſtion, or the immoderate

moderate uſe of warm diluting liquors; however carefully theſe leſs friendly articles of diet may be avoided; by overloading, diſtending, and debilitating the alimentary canal, and giving occaſion, by delay, to thoſe ſpontaneous changes of the food, which it would undergo in ſimilar circumſtances out of the body, and to the generation of wind, acidity, and all the other ſymptoms and conſequences, whether local or general, of indigeſtion; to which will be added the oppreſſive, and otherwiſe dangerous, influence of repletion. And thus the plaineſt, and ſimpleſt food, may by an exceſs in quantity do that injury, which it was incapable of doing by its quality.

As indigeſtible food, immoderate dilution, and intemperance, are cauſes, ſo *viſcid phlegm* is a conſequence of debility in the firſt paſſages, and of its offspring indigeſtion; and tends to increaſe the evils to which it owes its birth. Like the other effects of indigeſtion, it is a common ſymptom, and has probably

ſome

ſome ſhare in the production, of hypochondriacal Melancholy.

CONGESTIONS of viſcid matter in the ſtomach, and inteſtines, of perſons of weak bowels, of lax and ſluggiſh habits, of a ſedentary and inactive life, and of great reading and cloſe thinking, are not uncommon; and are ſometimes ſo exceſſive, as to be equally aſtoniſhing, and alarming. They are frequent among weakly children, delicate women, mechanics whoſe employment requires little exertion of ſtrength, and conſtant ſitting; but above all among ſuch literary perſons as are inordinately devoted to ſtudy. Of ſuch a collection in the inteſtines, owing to great bodily inactivity, joined with intenſe, and unremitted, application of mind, we have an extraordinary example in the caſe of the very learned, and deſervedly celebrated, JUSTUS LIPSIUS;¶ who was long tormented

¶ Vide TISSOT *de Valetudine Literatorum*. p. 33.

mented with the moſt troubleſome complaints, from which he could obtain no relief, till he had evacuated, by ſtool, a viſcid, pituitous ſubſtance, of the form, and colour, of the inteſtines, in the cavity of which it had been gradually accumulated, during a long courſe of literary indolence, till it had covered the internal ſurface of the tube with a preternatural lining.

THE ſame may be ſaid of *worms* in the alimentary canal, as of viſcid phlegm. Their eggs being taken in with the food, finding a proper neſt in the ſtomach, and inteſtines, already infirm, and abounding with viſcid matter, and there aſſuming their vermicular ſtate; they add to the load, as they grow and multiply, with which theſe parts were but too much oppreſſed before; increaſe their debility; promote the accumulation of phlegm; and thus nouriſh the diſorders which favoured their birth, afforded them habitation and ſupport, and contributed to their multiplication.

SINCE

SINCE worms are thus the effect, and the cauſe, of debility of the firſt paſſages; and are capable of aggravating all its conſequences; it is eaſy to perceive how they may contribute to the production of Inſanity. And we ſhall be more convinced of their power in this reſpect, when we conſider how likely they are to irritate, as well as to weaken, the very delicate, and ſenſible, parts, in which they are lodged; and of courſe to produce the moſt violent effects of immediate ſympathy, as well as thoſe ariſing from ſlow, and gradual, changes in the conſtitution. Indeed the moſt alarming, and extraordinary, ſymptoms of diſorder in other, and remote, parts, have frequently, with juſtice, been aſcribed, in a great meaſure, to the irritation of worms, viſcid phlegm, and other acrimonious matter, in the firſt paſſages. And that delirium, and Inſanity, have owed their excitement to ſuch a cauſe, we have not only the teſtimony of general opinion, but the actual relations of particular caſes: and we daily ſee, in the worm-fevers of children, how apt the irritation of worms, and viſcid matter, in the bowels,

els, is to affect the brain, by the delirium, and coma, which are their frequent ſymptoms.*

3. As the cauſes mentioned in the preceeding article have all a tendency to diſorder the brain, and to induce Inſanity, *chiefly* by ſlow, and progreſſive depredations on the health of the body, and by imperceptibly undermining its vigour, and diminiſhing all its tones; effects in the production of which their *principal* agency is gradually exerted on the alimentary canal: ſo, on the other hand, ſuch active ſubſtances as *wine, opium, and other narcotics, and poiſons*, not only poſſeſs a like property of effecting, when habitually indulged

* Dæmonomania a vermibus. SAUVAGES. *Noſol. Method.* Claſs VIII. Gen. XIX. 4. Tom. III. Part. 1. p. 397.—— Vide etiam JUNCKERI *Conſpect. Medicin. Theoret. Pract.* Tab. CXXII. p. 926. v. Cauſæ.——HARRIS *de Morbis Lactis Infantum.* p. 52.——ANDRY *de la Generation des vers dans le Corps de l'Homme.* Chap. IV. Art. II. p. 79, &c.——& Auctores Medicos paſſim.

indulged in to exceſs, a progreſſive change in the general ſyſtem favourable to Inſanity, by operating ſlowly upon the conſtitution, gradually debilitating the ſtomach and inteſtines, injuring all the viſcera, and diminiſhing the tones of the whole body;—but have likewiſe by a peculiar ſympathy between the ſtomach and brain, a powerful, and peculiar propenſity, to affect the latter,—and either gradually to weaken its veſſels and membranes, increaſe their irritability, induce a facility of determination of blood to the head, and thus to generate a local prediſpoſition to delirium, and Inſanity;—or, by ſtimulating the veſſels of the brain into ſudden, and violent exertions, to excite almoſt inſtant delirium, and very ſpeedy Inſanity.

THE effects of *wine* are notorious; and, like thoſe of our daily food, would appear more wonderful, were they leſs common. This exhilerating beverage rouſes the languid energy of the nerves, and, like actual nouriſhment, refreſhes the whole animal machine, the moment it enters the ſtomach of the

the weary and exhauſted. If too plentifully taken, it increaſes both the force, and quickneſs, of the circulation; creates heat, and thirſt; increaſes the action of the ſmall veſſels of the whole ſyſtem, and particularly of the head, and brain; excites chearfulneſs, and ſelf-importance; makes a man feel happy in circumſtances of diſtreſs; and great and independent, in the midſt of inſignificancy, control, and oppreſſion; and renders him ſociable, or reſerved, merry or diſputatious, friendly or quarrelſome, generous and humane, or malevolent and revengeful, as its effects on the body, and ſpirits, happen to operate upon his natural diſpoſition, or are determined by accidental circumſtances. His ideas are at firſt rapid, then deranged, then perfectly confuſed and incoherent, at length fixed in ſtupid ſtagnation, and at laſt almoſt entirely obliterated in the profound inſenſibility of a nearly apoplectic ſleep.

IT appears, therefore, that intoxication may emulate almoſt every ſpecies of madneſs, and idiotiſm. And as this ſimilarity between intoxication,

intoxication, and Infanity, ariſes from a ſimilarity, in both caſes, of the preternatural ſtates of the brain; were the temporary ſtate ariſing from intoxication to remain, after the immediate operation of the liquor had ceaſed, it would no longer be intoxication, but Infanity. And this ſometimes actually happens. More frequently, however, Infanity is the dreadful conſequence of a habit of intoxication; of which, unhappily, the inſtances are too numerous to eſcape the notice of the moſt inattentive obſerver.

But in no caſe is inebriation with wine, or other fermented, or ſpirituous liquors, ſo apt to terminate in Infanity, as when it prevents ſleep: and thus not only approaches nearer to a ſtate of Infanity, the beginnings of which are commonly attended with exceſſive watchfulneſs; but increaſes the danger of ſuch a termination, by continuing both the power, and the inclination, of inceſſantly renewing the cauſe, and adding fewel to the flame, of intoxication; when the ſeaſonable interpoſition of ſleep would at leaſt give

give a temporary ſuſpenſion to the former, and, by favouring the return of ſobriety, and reaſon, might fortunately put an end to the latter. Perſons thus affected by wine will frequently perſevere in drinking, without interruption, and with little or no ſleep, for days, and weeks together; and when at length obliged, by the forcible interpoſition of their friends, to deſiſt, not uncommonly, continue inſane for weeks, and months, after the firſt exciting cauſe has been thus withdrawn; ſometimes never recover; and often remain liable to occaſional returns of Inſanity; which uſually in the end becomes perpetual, and incurable.

THE effects of *opium* are nearly ſimilar to thoſe of wine. But while the more direct tendency of the latter is to intoxicate, that of the former is to induce ſleep. Like wine, however, it is more likely to give riſe to ſpeedy Inſanity, when, inſtead of ſleep, it cauſes intoxication, and watching.

OPIUM, as well as wine, occaſions a prediſpoſition to Inſanity,—when the free uſe

uſe of it is habitually indulged,—not only by ſuch frequent repetitions of increaſed action in the veſſels of the brain, and of temporary ſtates of that organ which differ from Inſanity merely in duration, as to give to ſuch ſtates a facility of excitement, and an aptitude to continue: but by injuring digeſtion, chylification, ſanguification, ſecretion, excretion, and nutrition; by diminiſhing ultimately all the tones; by creating languor; by increaſing morbid irritability and ſenſibility; by exciting ſpaſms, and painful ſenſations; and by inducing dejection, and puſillanimity: ſome of the moſt obſtinate cauſes of Inſanity, in all its forms.

So dreadful are the languor, and the diſtreſsful feelings both of body and mind,—known to hard drinkers by the appellation of the *horrors*,—ariſing from exceſſive indulgence either in wine, or opium, as, even when they have not given occaſion to actual Inſanity, to render life a burden; and to tempt ſome, while under the depreſſion of inexpreſſible languor, and in the deſperation of hopeleſs

leſs ſuffering, to free themſelves by ſuicide from an agonizing ſtate of preſent miſery, than which they can conceive nothing future to be more intolerable.†

OTHER

† I know not where I can with more propriety, than in this place, take notice of a remark of the late Dr. WALL of Worceſter, incidently made in a letter to SIR GEORGE BAKER, relative to the impregnation of the cyder of the counties of *Hereford*, *Gloceſter*, and *Worceſter*, with the poiſon of lead, and to the endemic diſeaſes of thoſe counties; which was firſt publiſhed by SIR GEORGE BAKER, in the *Medical Tranſactions*; (a) and afterwards republiſhed by Dr. MARTIN WALL, in a collection of his father's *Medical Tracts*. (b)

"I have heard it obſerved, ſays he, by a phyſician, late of "this city, who was much employed in the cure of lunatics, "that more of thoſe unhappy perſons came to him from *Here-* "*fordſhire*, than from any other place. The fact, if true, "may poſſibly ariſe from the quantity drunk, rather than the "quality."

To this remark of his father, the ſon has ſubjoined the following note.

"In a paper inſerted in the Gloceſter Journal, March 3. 1777, to recommend the ſcheme for inſtituting a hoſpital for lunatics at *Hereford*, is the following ſentence, which ſeems to ſhew that the opinion of the frequency of lunatics in that county is not uncommon; at leaſt that it was not peculiar "to

(a) Vol. 1. p. 202. (b) p. 309.

OTHER *narcotics*, and indeed all *poiſons* which

" to the phyſician mentioned above. The writer after enu-
" merating ſeveral conſiderations which he thought neceſſary to
" demonſtrate the utility of ſuch a hoſpital, ſays, ' Theſe con-
' ſiderations plead ſtrongly in favour of the propoſed ſcheme ;
' and the more ſo from a circumſtance, perhaps, not generally
' known ; that the *cyder-counties* unfortunately abound with
' the greateſt numbers of theſe objects of compaſſion.' " Future
" accurate obſervation will determine, whether this opinion
" has any foundation, and to what cauſe it is to be aſcribed."

My diſtant ſituation from the *cyder-counties* having deprived me of the opportunity of perſonal experience in this matter, I can ſay nothing, from my own knowledge, about it ; and have only to add, to the authorities above quoted, the following obſervations of Dr. THOMSON, a very able and experienced phyſician of *Worceſter*, which I received ſome time ago, in anſwer to a letter which I had written to him on this head ; and which ſeem to confirm Dr. WALL's remark : and the opinion of Dr. HARDY,—the ingenious author of a valuable treatiſe on the colic of Poitou and Devon,—which ſeems to militate againſt it.

" My own experience, ſays Dr. THOMSON, entitles me to
" ſay very little on the ſubject. In the courſe of buſineſs, I
" have been often called into thoſe parts of *Herefordſhire* that
" lie contiguous to this county ; but I do not recollect that I
" there met with, or heard of, more people labouring under In-
" ſanity, than in this, or any other of the neighbouring coun-
" ties, where my buſineſs may occaſionally call me. But I
" met with an obſervation, ſome time ago, that may throw
" ſome light on this matter. It was made by a very ſenſible
" and obſerving man, who, for many years, kept a houſe for
" the reception of lunatics, within a few miles of this place.
" He

which have the power of intoxicating,* as moſt of the vegetable poiſons have,——ſuch as

"He ſaid, that in plentiful years of cyder, when the lower "claſs of people had an opportunity to drink large quantities of "it, he uſually had many patients from *Herefordſhire*; but "that a few weeks confinement to water-drinking, and ſome "medicines of the cooling and purging kind, generally ſent "them home——*ſober*, and in their ſenſes."

"This obſervation, you ſee, correſponds with what the late "Dr. WALL ſays with regard to the quantity inſtead of the "quality of cyder, conſidered as a cauſe of Inſanity. I know "not whether the *Lunatic hoſpital* has taken place at *Hereford*. "Whenever it does, we may, if this obſervation be well found-"ed, conclude, that, on ſuch occaſions, it will be very "full of patients; and the practice particularly ſucceſsful."

Dr. HARDY obſerves, that in the north part of Devon, where he reſided for ſeveral years, and where large quantities of cyder are generally drunk, ſo as to render the colic frequent, and endemic, inſtances of lunacy are by no means more common than in any other part of England, in which he has had an opportunity of making obſervation:—that he is certain that the medical gentlemen in that part of Devon would agree in this opinion:—that it appears to him highly probable, that had inſtances of lunacy often occurred among the drinkers of cyder on the other, or ſouthern ſide of the county, he muſt have heard of it from ſeveral gentlemen with whom he had a correſpondence:—ſo that he thinks, that the obſervation of Dr. WALL is not confirmed among the cyder drinkers of Devonſhire.

* Vide SAUVAGESII *Noſol. Method.* Claſs VIII. Gen. XVII. Paraphroſyne. Tom. III. Part. I. p. 364. &c. &c. & Gen. XIX. Dæmonomania Sagarum, *Ib.* p. 393. Dæmonomania Indica. *Ib.* p. 400.

as the *hyoſcyamus*,(a) *ſtramonium*,(b) *napellus*,(c) *belladonna*,(d) *œnanthe*,(e) *mercurialis*,(f) *cannabis*,(g) *coriaria*,(h) certain ſpecies of *fungi*, and a few more,—ſince they affect the brain nearly in the ſame way as wine and opium, are likely, under ſimilar circumſtances, to give riſe to ſimilar effects, and to be, like them, productive of Inſanity. Some we know have actually produced it; as the napellus, in the caſe, already related, of VAN HELMONT;§

(a) Hyoſcyamus niger *of* LINNÆUS.—*Common Henbane.*

(b) Datura Stramonium *of* LINNÆUS.—*Thorn-Apple.*

(c) Aconitum Napellus *of* LINNÆUS.—*Monk's-Hood.*

(d) Atropa Belladonna *of* LINNÆUS.—*Deadly Nightſhade*, or *Dwale.*

(e) OEnanthe crocata *of* LINNÆUS.—*Hemlock Dropwort.*

(f) Mercurialis perennis *of* LINNÆUS.—*Dog's Mercury.*

(g) Cannabis ſativa *of* LINNÆUS.—*Hemp.*

(h) Coriaria Myrtifolia *of* LINNÆUS.—*Myrtle-leaved Sumach.*

HELMONT ;§ the *ſtramonium*, on various occaſions, and among the reſt, in certain inſtances of ſuppoſed witchcraft related by SAUVAGES ;‡ and ſeveral others. Indeed examples of *temporary* delirium and Inſanity excited by vegetable poiſons, though happily not familiar, but too frequently occur in the courſe of medical reading, and practice. Nor are there wanting melancholy inſtances, in which poiſons of this ſort have given occaſion to Inſanity, or idiotiſm, which have not only been more *permanent*, but have remained during life. Examples of the *firſt* kind, or tempory Inſanity, from narcotic vegetables, may readily be found in the common hiſtories of their poiſonous effects:—of the *latter* a moſt deteſtable one is furniſhed by the practice of ſome Indian nations, whoſe ſovereigns, as we are told

§ Vide ſupra, Vol. I. p. 183.

‡ SAUVAGESII *Noſol. Method.* Claſs VIII. Gen. XVII. Spec. 5. Paraphrioſyne magica. Tom. III. Part. 1. p. 370. & Gen. XIX. Dæmonomania Sagarum. *ib.* p. 393.

told, inebriate, and ſtupify, the mental faculties of their younger brothers, and of others whoſe degree of conſanguinity is near enough to excite their jealouſy, by a preparation of a poiſonous vegetable called Bangue ;† and thus effectually extinguiſh the aſpirations of ambition in the imbecillity of idiotiſm :—— and of *both*, in the effects of philtres, or love-potions ; which have ſometimes been charged, with apparently ſufficient ground, as the cauſes of theſe diſorders ; and in the preparation of which, it is probable that, among other ingredients, ſome narcotic poiſon was uſually employed.

THAT

† Suppoſed to be the ſame with the *cannabis ſativa* ; from which however SIR HANS SLOANE ſays it eſſentially differs.—Vide RAII *Hiſtor. Plantarum.* Tom. I. p. 159.——I do not find that LINNÆUS was certain about it. In the *Amœnitates Academicæ*, Vol. VI. p. 184. he ſuppoſes, on the authority of HERMAN, that it is the *Hibiſcus Sabdariffa*. His character of the *cannabis ſativa* is, that it is—*narcotica, phantaſtica, delirantans, anodyna, repellens*,—" narcotic, productive of ideal delirium, and madneſs, anodyne, and repellent."——LINN. *Mater. Medic.* p. 214.——LORRY ſuppoſes it to be the *ſolanum furioſum* ; that is the *atropa belladonna* of LINNÆUS, or *deadly nightſhade*.——*De Melancholia.* Part. I. cap. 4. Tom. I. p. 88.

THAT the ſafe, or at leaſt the agreeable, internal uſe of ſome ſuch vegetable production, beſides the juice of the poppy, was known in times of very high antiquity, ſeems evident from what we read in HOMER of a medicament which HELEN mixed with the wine which ſhe gave to TELEMACHUS, and his companion.

Mean time with genial joy to warm the the ſoul,
Bright HELEN mix'd a mirth-inſpiring bowl:
Temper'd with drugs of ſov'reign uſe, t'aſſuage
The boiling boſom of tumultuous rage;
To clear the cloudy front of wrinkled care,
And dry the tearful ſluices of deſpair:
Charm'd with that virtuous draught, th' exalted mind
All ſenſe of woe delivers to the wind.
Though on the blazing pile his parent lay,
Or a lov'd brother groan'd his life away,
Or darling ſon oppreſs'd by ruffian force
Fell breathleſs at his feet, a mangled corſe,

From

From morn to eve, impaſſive and ſerene,
The man entranc'd would view the death-
ful ſcene.*

THE intoxicating effects, ſo diſſimilar in ſome reſpects from thoſe of opium, here aſcribed to this exhilerating beverage; and attributed to the addition of a myſterious drug, which, from the firſt epithet applied to it by the immortal bard, has obtained the appellation of NEPENTHES; as well as the total ignorance of the greek writers, to whom the properties of opium were no ſecret, concerning the nature of this wonder-working ſubſtance which HELEN is ſaid to have infuſed into the bowl; ſeem plainly to indicate, that it was ſomething different from ſimple opium, of which, however, ſome portion might poſſibly enter into the compoſition.——According to the poet——

Theſe drugs ſo friendly to the joys of life,
Bright HELEN learn'd from THONE's
imperial wife; Who

* POPE's HOMER's *Odyſſey*. Book IV. v. 301. &c.

Who ſway'd the ſceptre, where prolific Nile
With various ſimples clothes the fatten'd ſoil.
With wholeſome herbage mix'd, the direful bane
Of vegetable venom taints the plain.†

IT ſeems, indeed, highly credible, that the Egyptians, and the inhabitants of India, had a very early knowledge of inebriating ſubſtances of this ſort; ſince, beſides what may be collected from theſe verſes of HOMER, and other paſſages of antient writers, it is an undoubted fact that they are in poſſeſſion of ſeveral at this day, of which numberleſs teſtimonies might be adduced;* and it is well known

† POPE's HOMER's *Odyſſey*. Book IV. v. 315. &c.

* We are told by PROSPER ALPINUS, that the Egyptians were, in his time, acquainted with a great variety of theſe inebriating compoſitions; which they had in ſuch familiar uſe, that it was no uncommon thing to ſee perſons intoxicated with them, and

known that the opinions, manners, and cuſtoms of the inhabitants of India, and of other Aſiatic nations, have undergone very little change ſince the earlieſt times in which we have any account of them. Some of theſe the Egyptians prepare themſelves; while others, with whoſe preparation they are unacquainted,

and acting like madmen; and eſpecially in the ſtrange motions of their heads, and eyes: and that it was uſual for them, when they wiſhed to avoid any diſagreeable engagement, to excuſe themſelves by alledging that it would interfere with their ſtated time of *taking the herb*; a term ſignifying the taking of any of theſe inebriating ſubſtances; the principal of which are known by the names of *affion*, *aſſis*, *boſa*, *bernavi*, and *bers*; of all which he gives ſome account.——See his Treatiſe *de Medicina Ægyptiorum*. Lib. 4. cap. 1. p. 118—122.

KEMPFER mentions a medicament of this ſort, the effects of which ſeem nearly to have reſembled thoſe of the NEPENTHES. He ſays, that he, and others, his companions, partook of an electuary, which was offered them at an entertainment in India; that they ſoon felt themſelves ſo exceedingly happy, as they could no way expreſs but by laughing, roaring, and embracing each other; that, in the evening, when they mounted their horſes to return home, they ſeemed to be flying through the clouds upon Pegaſus, ſurrounded with rainbows; that when they came to themſelves, they eat moſt voraciouſly of whatever was ſet before them; and that they were, on the day following, in perfect health both of mind and body.——See SAUVAGESII *Noſol. Method.* Claſs. VIII. Gen. XVII Tom. III. Part. I. p. 371.

acquainted, they ſtill receive, as they probably always received them, from the luxurious Aſiatics, to whom they may have been originally indebted for them all; and with whom it is certain that they carried on a conſiderable traffic, as we learn from ſacred hiſtory, long before the days of HOMER, or of HELEN.

BUT whether HELEN was really poſſeſſed of any compoſition of this kind, of which ſhe knew the uſe, if not the preparation; and which ſhe actually mixed with the wine preſented to her gueſts on this occaſion: or whether the whole be no more than a probable fiction of the poet, who might frequently, during his travels in Egypt, have ſeen the effects of ſuch compoſitions, and might poſſibly have been inſtructed in the preparation of them: yet, the pleaſures of this ſpecies of inebriation having never received the ſanction of cuſtom, or been naturalized, in Greece; the knowledge of the methods, by which it might be excited,

might either die with, or not long ſurvive, the firſt introducers.

EFFECTS of a very different kind from thoſe produced by vegetable narcotics, and poiſons, and ſingularly uncommon in their nature, and appearance, have long been attributed to the venomous bite of the Apulian *Tarantula* ;‡ which, if real, are, perhaps, to be conſidered as ſymptoms of a peculiar variety of *impulſive Inſanity*. BAGLIVI, whoſe judgment, abilities, and inquiſitive turn of mind, were not very compatible with the blindneſs of credulity ; and whoſe ſituation was favourable to an inquiry into the real truth of this matter ; enumerates theſe extraordinary effects, as known, and indiſputable ; relates ſeveral particular hiſtories of them ; and minutely deſcribes the ſpider from whoſe bite they are ſuppoſed to proceed ; which, he tells us, is no where poiſonous but in Apulia, and there only in the plains, and not on

‡ Aranea Trantula *of* LINNÆUS.

on the neigbouring mountains, in the ſummer ſeaſon, and eſpecially in the dog-days; and adds, that the reapers in the time of harveſt are ſo liable to be wounded by theſe pernicious little animals, that they wear ſhort boots with an expreſs view to defend their legs from their bite.¶

BUT notwithſtanding the authority of ſuch a man as BAGLIVI, who was an eye witneſs of many of the facts which he relates; ſome late travellers, of reſpectable character, who have inquired into this matter upon the ſpot, have treated the whole as a fable, or a cheat; or, at beſt, as a popular deluſion.§

4. INSANITY may likewiſe take its riſe from diſordered ſtates of the *womb*, *ovaries*,

¶ BAGLIVI *Diſſertatio de Anatome, Morſu, & Effectibus Tarantulæ.* Operum p. 599, &c.

§ See FOSTER's Tranſlation of Baron RIEDESEL's *Travels through Sicily, and that part of Italy formerly called Magna Græcia.* &c. p. 212, &c.

ries, and *ſpermatic veſſels*, and of the parts with which they are connected. The conditions of theſe parts here principally intended, are ſuch as are by their nature adapted to become the immediately exciting cauſes of the two varieties of *appetitive Inſanity*, SATYRIASIS, and NYMPHOMANIA.

THESE diſorders may owe their origin to an immoderate, and unſeaſonable, indulgence in laſcivious ideas, in perſons who are withheld by religious, modeſt, or other fear, from the irregular gratification of an appetite, which, in their ſituation, cannot be gratified, decently, lawfully, or conſcientiouſly :‖ ——to the temporary, and accidental exiſtence of an undue ſenſibility of theſe parts, ariſing from merely corporeal cauſes ; as the luxuri-

ancy

‖ Vide SAUVAGESII *Noſol. Method.* Tom. III. Part. I. Claſs. VIII. Gen. XIV. 1. p. 343, & 2. p. 345.——SENNERTI *Oper.* Tom. IV. p. 688.——ZACUTI LUSITANI *Prax. Medic. Admirand.* Lib. II. Obſ. 93. Tom. II. ad Calcem. p. 64.——SCHENCKII *Obſ. Med. Rar.* p. 134. Obſ. 4.

ancy of vigorous youth ;* the occaſional irritation of intemperance in diet, and eſpecially in wine, and too nouriſhing, or high-ſeaſoned meats ; the ſuppreſſion of the menſtrual diſcharge ;‡ the unſeaſonable abſtinence of virtuous perſons from the matrimonial connection ;¶ or the like :§——or to ſomething preternatural in their ſtructure, either coeval with the birth, or afterwards ſuperinduced

* Seminis retenti ardor. HOFFMANNI Supplem. Secund. Part. Secund. *De Mentis Morbis ex Morboſa Sanguinis circulatione ortis.* § XVI. p. 336.——BARTHOLINI *Hiſt. Anat. Rar.* Cent. 2. Hiſt. 69. p. 258. Vide etiam SAUVAGESII *Noſ. Meth.* &c. ſupra citata.

‡ Menſium Suppreſſio. HOFFM. ib.—SCHENCKII ib.

¶ Lymphæ Seminalis diuturna nimis retentio. HOFFM. ib. § IX. p. 333.—SAUVAG. ib. p. 344.

§ Vide SENNERTI *Oper.* Tom. IV. p. 688. Where we are told, "De muliere nupta, quæ in furorem uterinum per intervalla incidit, cum non eſſet prægnans ; ſi, ſcilicet, poſt partum inter annum aut duos non conciperet. Poſtquam vero a viro concepit, ſemper libera fuit."

ſuperinduced by diſeaſe,* ſo favourable to the production of theſe diſorders, as readily to give riſe to them; and eſpecially when aided by the accidental co-operation of any ſuitable exciting cauſe.

IT has been remarked, that the maniacal are in general peculiarly diſpoſed to be amorous. But though this is not true, it is a certain fact, that they are ſometimes ſo in a very diſguſting degree. This I have frequently obſerved in perſons who, when in their right minds, were modeſt, ſober, and religious; and who had probably but little, if at all, indulged in wanton ideas.

IN ſuch caſes, this ſymptom has not made its appearance early in the diſorder; nor diſcovered

* Clitoris miræ magnitudinis. Ovarium maximæ magnitudinis. &c. &c. BONETI *Sepulch.* Tom. I. p. 216. Obſ. 1.—Teſticulus ſiniſter pugni magnitudinem circiter adæquantem, &c. ID. ib. p. 220. 2.——Cadavera oſtendere clitoridem tumidam, ovaria ſolito majora, tubas Fallopii clauſas. SAUVAG. ib. p. 346.——Clitoridem obſidet materies herpetica acris, mordax. ID. ib. p. 346. 4.

covered itſelf till the Inſanity, which had originally no connection with appetite, has acquired a very formidable magnitude, and the moral ſenſe been much impaired by the almoſt total derangement of reaſon.

WHEN Satyriaſis, or Nymphomania, appear thus late in the diſorder, it is probable that they are the conſequence of ſome very erroneous, and abſurd notions, or deluſive images, which originate in the diſordered ſtate of the brain.

BUT when they are the firſt, and moſt prominent ſymptoms, and precede the other indications of Inſanity; they ariſe out of ſome of the cauſes above-mentioned; which, firſt exciting inordinate and ungovernable appetite, lay the foundation of Inſanity as its natural offspring.

HOW ſuch inordinate appetites ſhould generate Inſanity, may readily be conceived, if we reflect, —that it is of their nature to dwell perpetually upon their object, to the ex-

cluſion of almoſt every other; —— that this inceſſant brooding over the object of deſire, ſoon effectually baniſhes ſleep ;——that the unconquerable deſire of vitious, and unlawful gratification, is not only attended with conſtant watching, but with ſhame, impatience, fear, anxiety, remorſe, and all thoſe uneaſy, and agonizing feelings, which naturally accompany the agitation of contending paſſions, the violent and painful ſtruggles between conſcience and inclination, virtue and appetite ; —— and that while of itſelf it powerfully impels the blood into the head ; and heats, and excites the activity of the brain ; theſe immediate, and neceſſary effects of amourous propenſity, are much heightened by the co-operating influence of the abovementioned unavoidable concomitances, and conſequences. Since cloſe attention to one ſubject, uninterrupted watching, and the painful agitation of various and oppoſing paſſions, all determine the blood too copiouſly to the head, and are powerful agents in the production of Inſanity.

To all this may be added, the peculiar ſympathy which ſubſiſts between theſe organs and the whole ſyſtem of the brain and nerves; and their tendency, when in too irritable a ſtate, to propagate an undue degree of irritability throughout the body,—to produce hyſterical ſpaſms, and other ſymptoms of nervous affection,—and to excite that ſympathetic, and, as it might not improperly be termed, hyſterical delirium, the connection of which with diſorders of the womb,* ovaries, and ſpermatic veſſels, we are better able to prove, than to account for.

Happily *Satyriaſis*, and *Nymphomania*, are not very common. The latter, for various, and obvious reaſons, is more frequent than the former: the delicacy, timidity, reſtraint, and peculiar natural economy, of the fair ſex, rendering them more liable to the one; than the licentious freedom of indul-

* See a very curious, and intereſting caſe, of this kind of delirium, in Lorry's Treatiſe, *De Melancholia*. Tom. I. Part II. cap. 3. p. 78.

gence, in which men too generally allow themſelves, leaves them in danger of the other.

5. THE peculiar economy of the womb, in the human ſpecies; its monthly diſcharge during a certain period of life, and the cuſtomary evacuation from it, termed the *Lochia*, after lying-in; the influence which theſe hemorrhages have upon the ſtate of the vaſcular ſyſtem; their connection with health; and the ſympathy which ſubſiſts between the womb and the reſt of the body in general, and the breaſts in particular; are ſtriking circumſtances in the female ſyſtem.

IF we conſider the condition of the womb during pregnancy, its gradual and immenſe diſtenſion, and the extraordinary increaſe at the ſame time in the thickneſs of its ſpongy ſubſtance, owing probably to the unfolding of the infinity of blood with which it is ſupplied, and which, with the blood that fills them, compoſe the greateſt part of its bulk; if we conſider the unuſual quantity of blood which muſt

muſt be prepared to ſupply theſe veſſels, and to furniſh nouriſhment, and increaſe, to the growing fetus; if we conſider the ſudden alteration in the capacity of this organ, after the birth of the child, and that there is then no longer a demand for any extraordinary ſupply of blood, either to diſtend the one, or to nouriſh the other; and at the ſame time reflect on the violence, and injury, which the womb, and neighbouring parts may have undergone during delivery; and how liable they are to ſuffer from a variety of cauſes, at firſt of inflammation, and afterwards of putridity; and if to theſe conſiderations we add the increaſed irritability both of the womb, and of the reſt of the body, as well from the pains of labour, and thoſe which ſucceed it, from the diſſipation of the nervous power, and diminuation of ſtrength, as from the other cauſes above-mentioned, and from he extraordinary changes that are now to take place in the ſyſtem, to provide for the nouriſhment of the Infant, by new ways in its new ſtate; we ſhall not be ſurpriſed that

a variety of diſtreſſing, and alarming diſorders, and among the reſt that Inſanity itſelf, ſhould be the common conſequences of too *ſmall a diſcharge* of this kind; and, eſpecially, of its *ſudden diminution*, or *ſuppreſſion* altogether.

INSANITY may be produced by theſe means in ſeveral ways. For either the blood with which the habit may be ſuppoſed to abound in an extraordinary degree, in the latter months of pregnancy, and beyond what is conſiſtant with health, if retained in the body after delivery, may in conſequence of the ſudden ſuppreſſion, or great diminution, of its diſcharge, be diverted, by ſome accidental, and imperceptible cauſe, to the brain; or an inflammatory ſtate of the womb may, by theſe means, be brought on, and the brain may ſuffer, during the inflammatory action of the heart and arteries, by the violence of that action, by the ſympathy between the two organs, or by ſome accidental determination to the brain, or conſtitutional irritability in its veſſels, or other peculiar prediſpoſition; or it may

may ſuffer, from ſimilar cauſes, in the common courſe of any other kind of fever; or merely from the generation, or increaſe, of preternatural irritability, and conſequent hyſterical ſymptoms, by ſuch deviations of this evacuation from its natural procedure, without the concurrence of any perceptible fever: the agency of all which in the production of Inſanity may be aſſiſted by improper medicines, diet, or regimen; by violent perturbations of mind; or by various other incidental, and conſpiring cauſes.

If to the conſideration of all theſe circumſtances of danger, with which the deficiency, or the ſudden diminution, or ſuppreſſion, of the lochial diſcharge, are accompanied, we add that of the numerous cauſes from which theſe irregularities may originate; and the frequent miſmanagement of nurſes, friends, and attendants; which happily, however, are now much leſs common than formerly; we cannot but admire the kind ſuperintendence of providence, and the ſurpriſing efficacy

cacy of nature, in the preſervation of lying-in women; and ought rather to wonder that they ſo often eſcape, than that they ſometimes ſuffer, violent diſorders after delivery, and that delirium, and Inſanity, are not the leaſt frequent of theſe diſorders.*

It is, probably, owing to ſimilar cauſes, that is to plenitude, fever, and increaſed irritability; and not to a tranſlation of the *milk* to the brain; or, as the *French* term it, *depot laiteux ſur le cerveau*; that the *non-appearance*, or ſudden *ceſſation*, of this ſalutary ſecretion, are ſometimes ſucceeded by Inſanity: and eſpecially if accompanied, or preceded, by a ſuppreſſion of the Lochia; and nature be not ſpeedily relieved by a fortunate flow of the menſtrual diſcharge.†

As

* Vide Hoffmanni *Med. Rat. Syſt.* Tom. IV. Part IV. Cap. 8. § 22, & § 27. Oper. Tom. III. p. 255, & 256.—Boneti *Med. Septentr. Collat.* Lib. I. Sect. XIX. Cap. 9. ſub Fin. p. 188.——Van Swieten *Comment. in* Boerh. *Appor.* § 1127. Tom. III. p. 531, &c.

† Vide Sauvagesii *Noſol. Method.* Tom. III. Part I. Claſs. VIII. Gen. XX. 2. *Mania Lactea.* Vol. 4. p. 405.

As the lochia are an occaſional, ſo the *menſes*, or catamenia, are a periodical evacution, of ſuperfluous blood, by the veſſels of the womb; and both are the conſequences of a plethoric ſtate, either general, or partial. Their ſuppreſſion may, therefore, ſo far as their circumſtances are ſimilar, bring on ſimilar effects, by ſimilar means. As they are not accompanied with the pain, and violence, of child-birth; nor with ſo extraordinary, and ſudden a change in the ſtate of the womb, as is experienced after delivery; ſo their ſuppreſſion will be leſs liable to be attended with inflammatory, or feveriſh ſymptoms; and its effects will uſually be leſs rapid, and leſs alarming; and will rather be the produce of gentle, gradual, and perſevering influence, than of urgent, and impetuous force: and while the former attacks the delicate female fabric with violence, and by ſtorm; the latter will inſenſibly undermine it by repeated, and unremitting efforts.

Its operations are directed to produce an unnaturally plethoric ſtate; to diſtend, and overload, the veſſels, in particular, which are diſtributed through the abdominal viſcera; to obſtruct, and counteract, the regular proceedings, and energies of nature; to excite diſorderly determinations of blood, and ſometimes hemorrhages, in various parts;* to create a morbid degree of irritability in the womb, and of conſequence in the whole ſyſtem; to weaken digeſtion; impede chyliſication; deprave nouriſhment; enfeeble the tones; produce languor, indolence, debility, low ſpirits, and dejection; in all theſe ways, aided by a ſuitable concurrence of conſpiring circumſtances, to give occaſion to determinations of the circulating fluid to the head; and not only to create hyſterical, and hypochondriacal ſymptoms, and melancholy; but, at one time

* Vide Hoffmanni *Med. Rat. Syſt.* Tom. III. Sect. I. cap. 9. § III. IV. V. VI. VII. *Oper.* Tom. I. p. 340, &c. —& *Med. Rat. Syſt.* Tom. IV. Part IV. cap. 8. § 22, & 27. *Operum* Tom. III. p. 255.—Alberti, *Introduct. in Univerſam Medicinam* Part I. p. 156.

time or another, almoſt every poſſible variety of Inſanity. †

AND not only the *ſuppreſſion* of the menſes, after they have been accuſtomed regularly to flow; but their long, and obſtinate *retention*, or non-appearance at the time of life when they ought naturally to ſhow themſelves; may give occaſion to Inſanity. In the latter caſe, the diſordered ſtate of the brain will originate from cauſes in a great meaſure ſimilar

† Inſtances of Inſanity, from a ſuppreſſion of the menſes, are very common. I ſhall only refer to a few.—HOFFMAN relates a caſe of a periodical delirium, with epileptic fits, from a ſuppreſſion of the menſes, which was brought on by anger.—*Operum* Vol. IV. Caſ. 38, p. 64.—SCHENCKIUS relates one of nymphomania, and one of mania, from the ſame cauſe.——*Obſ. Med. Rar.* Lib. I. p. 134. Obſ. 4, & p. 138. Obſ. 3.——OLAUS BORRICHIUS gives one, in which the brain was ſo much affected by the ſuppreſſion of this evacuation, that the memory was almoſt obliterated; ſo that the unhappy ſufferer not only became timid, and diſtreſſed, but though a very religious perſon, could not ſo far recollect herſelf, as to repeat the Lord's Prayer.——*Act. Hafniens.* Vol. II. Obſ. 78. p. 196.——ZACUTUS LUSITANUS furniſhes an inſtance of deep melancholy; from a ſuppreſſion of the menſes; *Operum* Tom. I. p. 71. Obſ. 34:——And BONETUS two caſes of Inſanity from the ſame cauſe; which were both cured; one by the reſtoration of that evacuation, and the other by the regular courſe of the lochia after lying-in. *Med. Septentr. Collat.* Lib. VIII. Sect. XIX. Obſ. 1 & 2. Tom. II. p. 421.

lar to thoſe which give riſe to it in the former; but eſpecially from debility of the whole vaſcular ſyſtem, from a languid ſtate of the chylopoietic viſcera, from general weakneſs, and a diminution of all the tones.

THE *ſuppreſſion* of habitual, and periodical, diſcharges of blood from the hemorrhoidal veſſels, commonly called the *piles*, is likewiſe a ſource of Inſanity. This evacuation, though a preternatural one, and always the indication of a diſordered ſtate, becomes to ſome perſons, by habit, as eſſential to health, as the above-mentioned natural diſcharges, ‡ and in ſuch caſes, its ſuppreſſion may bring on Inſanity; either ſuddenly, by inducing a plethoric ſtate of the blood veſſels, and exciting an extraordinary determination of the ſuperabundant blood to the head: or ſlowly, by loading the veſſels of the alimentary canal, obſtructing its functions, injuring digeſtion, and

‡ Vide HOFFMANNI *Med. Rat. Syſt.* Tom. III. Sect. I. cap. 9. § X—XXV. *Operum* Tom. I. p. 342, &c.—ALBERTI *Introd. in Univerſam Medicinam* Part I. p. 166, &c.

and nutrition, producing flatulency, hypochondriacal and ſpaſmodic ſymptoms, general debility, and weakneſs of tones.—— Caſes of Inſanity,* in the production of which the ſuppreſſion of the hemorrhoidal flux appears to have been inſtrumental, frequently occur both in reading and practice. Nor are there wanting others, in which, though the diſorder has not been owing to a ſuppreſſion of a cuſtomary bleeding of the piles; it has been thought to have a very ſimilar origin; and has been reaſonably attributed to the imprudent neglect of uſual blood-letting; or to the ceaſing of habitual hemorrhages from the noſe.†

INSANITY has alſo frequently been obſerved, ſooner or later to ſucceed the *ſuppreſſion*

* Vide HOFFMANNI *Med. Rat. Syſt.* Tom. III. Sect. I cap. 9. § XIV. XV. XVI. *Operum* Tom. I. p. 343 —ID. *ib.* Tom. IV. Part I. cap. 8. § 22. *Operum* Tom. III. p. 255.—ID. *ib.* p. 264. Obſ. 2.——ZACUTI LUSITANI *Oper.* Tom. I. p. 7. col. 1. A.—p. 77. Hiſt. 39.—p. 78. Hiſt. 40.—VAN SWIETEN *Comment.* § 1127. Tom. III. p. 253, &c.

† Vide HOFFMANNI *Med Rat. Syſt.* Tom. IV. Part IV. cap. VIII. § XXII. *Oper.* Tom. III. p. 255.

ſion of old ulcers, or other preternatural diſcharges of ſerous fluids, whether induced by diſeaſe, or procured by art: and has, therefore, with great probability, been attributed to the ſuppreſſion which preceded it; though there may ſeem to be ſome difficulty in attempting to account ſatisfactorily for ſuch an effect from ſuch a cauſe.

If the diſcharge has been copious, and has ſuddenly been ſuppreſſed by art, or ceaſed ſpontaneouſly; and no other evacuation has been ſubſtituted in its ſtead, which, in ſome circumſtances, ought on no account to be omitted; the ſuperabundant fluid, which uſed to be ſeparated from the blood, to ſupply the cuſtomary evacuation, being no longer wanted, will be retained in the veſſels; and freſh blood being daily furniſhed by habit in the uſual quantity, or nearly, a ſtate of plenitude will be produced; but how eaſily the brain may be affected by a ſudden production of fulneſs in the blood-veſſels, has already been noticed. It may, therefore, be ſuppoſed that the

the ſuperfluous blood which formerly ſupplied the waſte of the ulcer, or other ſimilar cauſe of evacuation, being retained in the body, may by an accidental influence be determined to the brain. And, in the caſe of ſome morbid diſcharges, we may farther ſuppoſe, that the ſame diſeaſe in the habit which gave birth to the ulcer, may excite a diſpoſition in the veſſels of diſtant parts, and among others in thoſe of the brain, to renew in themſelves the diſordered action which has ceaſed in the veſſels of the part originally affected: and may in this way either generate an immediate diſeaſe in the brain, productive of Inſanity; or, by occaſioning glandular obſtructions, or other diſorders in the abdominal viſcera, impeding digeſtion and nutrition, weakening the tones, increaſing irritability, and exciting uneaſy ſenſations, may give riſe to a variety of hypochondriacal and hyſterical ſymptoms, and to ſuch other gradual changes, as may at length terminate in this diſorder.

BESIDES the ſuppreſſion of habitual ulcers of a morbid nature, of old iſſues and ſetons, or of any copious diſcharges from the ſkin, of which there are great variety; the ſuppreſſion of ſome other habitual drains has been accuſed of giving occaſion to Inſanity: as of the *whites* in females; and of the preternatural exudation by the veſſels of the head, and hair, in the inhabitants of Poland, and of certain parts of Ruſſia, Pruſſia, and Germany, by cutting off the diſeaſed, and cohering locks, which conſtitute the principal, and moſt conſpicuous ſymptom, of a very nauſeous and ſordid diſorder, called, from its peculiar frequency in the former of theſe countries, the *Plica Polonica*. †

Obſtructed perſpiration has alſo been mentioned among the cauſes of Inſanity, by HOFFMAN,*

† See a full account of this ſtrange diſeaſe in BONETI *Med. Septentr. Collat.* Lib. I. Sect. I. cap. 4. Tom. I. p. 2.—And a caſe of Inſanity from this cauſe in SAUVAGESII *Noſol. Method.* Claſs. VIII. Gen. XIX. 8. *Dæmonomania Polonica.* Tom. III. Part I. p. 400.—See alſo HOFFM. *Med. Rat. Syſt.* Tom. III. Sect. I. cap. VIII. *De damnis ex cohibita culiculari excretione.* § XVII. *Oper.* Tom. I. p. 336 & *Med. Rat. Syſt.* Tom. IV. Part IV cap. VIII. § XI. *Oper.* Tom. III. p. 263.

MAN, ‡ and VAN SWIETEN; || and a particular inſtance of it related by BONETUS:* but as it is probable that this ſuppoſed cauſe of the diſorder is uſually accompanied with fever, from which the Inſanity more immediately proceeds; it is moſt properly conſidered as a more remote cauſe, tending to excite the leſs remote one of fever, by the mediation of which it acts, and therefore to be referred to that head in the table of cauſes. If, however, at any time, it appears to give riſe to Inſanity, without producing fever; ſuch an effect may poſſibly be accounted for in ſome of the ways in which I have endeavoured to account for the production of Inſanity by the ſuppreſſion of old ulcers, and other preternatural, and habitual diſcharges. But it is, I believe, more frequently

‡ *De Mentis Morbis, ex morboſa ſanguinis circulatione ortis.* § XII. *Operum.* Supplem. Secund. Part. Secund. p. 334.—"Præpoſtera ſudoris fœtidi reſiccatio"—HOFFM. *Med. Rat. Syſt.* Tom. III. Sect. I. cap. IX. *De vitiis ex turbatis ſanguineis aliiſque evacuationibus.* § XXI. *Operum* Tom. I. p. 345.

|| Comment. in BOERHAAVII Aph. § 1090.

* *Med. Septentr. Collat.* Sect. XIX. c. 9. Tom. I. p. 188.

frequently a ſymptom, than a direct cauſe of Inſanity: a dry and harſh ſkin, and great defect of perſpiration, being a common attendant, in particular, of what has been uſually termed hypochondriacal melancholy.

6. In the caſes of *gout*, *eryſipelas*, *herpes*, or *cutaneous eruptions* of various kinds, whoſe repulſion, and tranſlation to the brain, are reckoned in the table among the cauſes of Inſanity, it is taken for granted, that there is no diſcharge ſuppreſſed; or none of ſufficient moment to produce a plethoric ſtate, or otherwiſe to excite any material diſturbance in the animal economy. Their repulſion appears capable, however, of giving occaſion to Inſanity, either by diſordering the ſyſtem in general, and the firſt paſſages in particular; and producing indigeſtion, preternatural irritability, uneaſy ſenſations, diminiſhed tones, languor, and dejection; and affecting the brain in conſequence of theſe diſorders firſt excited in the alimentary canal, in the tones, in the ſtate of irritability, and in the feelings;

or

or by directly attacking the brain, and producing ſudden, and violent Inſanity, by ſuddenly increaſing the action of its capillary veſſels, and thus giving riſe to a ſudden accumulation of blood in the head, and a violent and diſorderly excitement of the nervous energy, and of the functions on whoſe due procedure the ſound and orderly ſtate of reaſon, imagination, and the affections depend.

MELANCHOLY, we are told by SYDENHAM, is the almoſt inſeparable companion of the gout :† and it is well known that indigeſtion, and all the conſequences of a debilitated, and irritable ſtate of the firſt paſſages, are its very common attendants ; and as it is ſo often in a wandering, and unſettled ſtate, and may fix in almoſt any part of the body, it is eaſy to conceive that it may produce Inſanity in both theſe ways.

BUT

† *Tractat. de Podagra. Oper. Univerſ.* p: 467.

BUT it must be acknowledged that, with regard to some of the supposed translations, whether of the gout, erysipelas, herpes, or other cutaneous eruptions, it may be questioned whether the Insanity be not the cause of the repulsion, or disappearance of the disorder; rather than its translation to the brain the cause of the Insanity. And the same may be said of many supposed instances of disordered mind from suppressed evacuations. Dr. MEAD* has observed that Insanity not only preserves the patient from other diseases, but when it seizes him actually labouring under them, lays such strong claim to the whole man, that it sometimes dispossesses the body of them: and relates a case of a dropsy cured, and of a consumption stopped for a time, by the coming on of Insanity. I have frequently seen instances of it succeeding most of the causes enumerated under this article; have often met with it in persons subject to regular

* *Medical Precepts and Cautions*, Chap. III. *Works*. Vol. III. p. 42—44.

regular fits of the gout, who have not had the ſmalleſt appearance of their uſual gouty paroxyſms during very long periods of this diſorder: and I have known a caſe in which an habitual aſthma entirely diſappeared during more than one fit of Inſanity, and returned as uſual when the Inſanity ceaſed.

7. *Worms in the noſtrils, or frontal ſinuſes*, as we learn from medical hiſtory, are another ſource of Inſanity; which they have been known to excite in the moſt violent degree. Caſes of this ſort are related by FERNELIUS, SCHNEIDER, and ANTONIUS *de* POZZIS; and SAUVAGES has a ſpecies of mania founded upon theſe, and ſome other caſes, of diſeaſe, and irritation, in the frontal ſinuſes, which he terms *mania ab hemicrania*; of all which I have already given a particular account in the hiſtory of APPEARANCES *on* DISSECTION.* Theſe facts throw a conſiderable

* Vide ſupra, p. 8. Note (7) and (8).

derable light upon the generation of Insanity from causes seated out of the brain; and contribute, with various other painful diseases, to show the tendency of excessive pain, and irritation, to disorder the brain, and disturb the operation of the intellectual faculties.

BEFORE I pass from the consideration of BODILY to that of MENTAL CAUSES, it may be proper to say something concerning *hereditary predisposition*. Of this I have made no mention in the table of causes: since, supposing such a predisposition really to exist, it is probable that it is not confined to any one precise state of body, but is of a different nature in different cases. Indeed the term ought to be considered as merely relative, and as rather expressive of the peculiar origin, and generation, of a cause, than of its specific quality. It points out a general question relative to causes; not any one particular cause.

THAT the gout, scrofula, consumption of the lungs, Insanity, and some other disorders

ders, may be derived in ſome reſpect from our parents, ſeems ſo plainly proved by the frequent occurrence of ſtriking, and indubitable facts, that, in a proper and limited ſenſe, it cannot, I think be denied by any man of much experience and obſervation: and to refuſe to diſeaſes capable of being ſo communicated the title, which they have long poſſeſſed, of *hereditary diſeaſes*, ſeems but objecting to a name, while we allow the reality of the thing which it is intended to ſignify. But that diſeaſes of any ſort are hereditary is to be admitted only in a very limited ſenſe. They do not paſs from parents to their offspring with the certainty of hereditary eſtates. A variety of circumſtances, to us totally unknown, may probably in many inſtances, diſturb the ſucceſſion: or, at leaſt, may prevent the actual appearance of the diſeaſe in ſome fortunate individual, notwithſtanding that the latent diſpoſition to it may be ſome way tranſmitted by him to his poſterity. It is indeed a common remark, which appears to be verified by fact, that the diſeaſe

of

of the parent may appear in ſome of the offſpring, and not in others; or may lie dormant in the immediate deſcendent, and break out again in the next generation. Nor is this any thing more wonderful, particularly when the diſorder exiſts only in one of the parents, than that in temper, or outward form, the children ſhould variouſly reſemble, ſome the father, ſome the mother, and ſome neither the one nor the other; or that ſome who have no likeneſs to either of the parents, ſhould ſtrikingly reſemble ſome of their anceſtors; and eſpecially if we conſider, that hereditary diſpoſition to diſeaſe, like ſimilitude of mind or perſon, in a great meaſure depends on the original ſtructure, and tones, of the ſolids, either in general, or in ſome particular parts; as of the brain, the lungs, the ſtomach and inteſtines, the blood veſſels, or the nerves; which may, or may not be communicated, or when communicated, may require habitual growth and nouriſhment, or ſtrong occaſional excitement, to give riſe to the diſeaſe of the parent, or family. Hence

it

it is, that the ſon may receive from his father a prediſpoſition to Inſanity, by receiving ſomething faulty in the mechanical ſtructure of the brain, tending to diſturb the operation of the mental functions; ſome weakneſs in the alimentary canal favourable to the generation of hypochondriacal melancholy; ſome unfortunate conſtruction of the nervous ſyſtem, or unhappy contexture of the ſolids, which may be productive of exceſſive irritability, and weakneſs of tones; a too active and ungovernable imagination; great timidity of temper; or ſome other bodily or mental imperfection, which, though not neceſſarily, may be very naturally, and probably, the cauſes of Inſanity; and may ſeldom fail to produce it, when aſſiſted by the concurrence of any ſuitable exciting cauſe. With regard, indeed, to Inſanity, it is ſo often to be traced for generations back; is ſo often obſerved to ſpread, and diffuſe itſelf, through many, and ſometimes through almoſt all the branches of a family; and ſo often diſcovers itſelf in ſeveral individuals of the ſame fami-

ly at the ſame time ; that, whatever may be thought of the ſtrict propriety of calling any diſeaſe hereditary, which is not certainly tranſmitted, and inherited, I cannot have the ſmalleſt heſitation in pronouncing that Inſanity is frequently communicated by parents to their children ; and that, as there are family likeneſſes, and family tempers and diſpoſitions, ſo this diſorder, as well as the gout, and ſome others, affords abundant proof that there are family diſeaſes. But, at the ſame time, I think it right to remark, for the comfort of thoſe perſons who are ſo unhappily circumſtanced as to ſpring from inſane families, or to be born of inſane parents, that, as has been above obſerved, this diſorder is not only not neceſſarily tranſmitted to all of the ſame family, or parents ; but that the danger of its ſometime or other, ſeizing them, may be much diminiſhed, by proper attention to avoid the influence of occaſional cauſes, or of whatever may tend to ſtrengthen the natural prediſpoſition ; and that there are inſtances, in which the whole of the immediate progeny have eſcaped the Inſanity of their parents.

(B) MENTAL CAUSES.

V. *Intenſe* APPLICATION *of mind.*

ALL our mental operations, all our thoughts, paſſions, ſenſations, and exertions, are accompanied with correſponding motions, or vibrations,* of which, though the nature is obſcure, the exiſtence cannot be doubted; excited by ſome or other of the ſtimuli, of which I have already given an account, in the elementary, and inconceivably minute, medullary fibres, or other particles, of the exquiſitely delicate ſtructure of the brain; on the good order of whoſe curious, and hitherto inſcrutable organization, it is probable that their proper, and undiſturbed procedure, their regular, and efficacious exertions, chiefly depend. Theſe motions, and vibrations, like thoſe of the air in the propagation of ſound, are more perceptible and diſtinct, in proportion as they

* See HARTLEY *on Man.* Part. I. Chap. 1. Vol. I. p. 1—114.

are leſs compounded, and multiplied, and of courſe, leſs interfere with, and interrupt each other; and are more or leſs vivid, in proportion as they more frequently recur, or are longer continued; and bear an exact relation in livelineſs, and intenſity, to the thoughts, paſſions, ſenſations, and exertions, from which they proceed, or to which they give occaſion.

SLIGHT, and tranſitory, thoughts, paſſions, ſenſations, and exertions, as they but little intereſt the mind, ſo they make but feeble impreſſions, and excite but faint, and eaſy vibrations, in the medullary ſubſtance of the brain; produce no material, or permanent, change in its ſtate; and, if they weary the body, and waſte the nervous power, they do it rather by their number, repetition, and duration, than by any violence of effort, or intenſeneſs of action.

BUT cloſe and ſevere thinking, ſtrong and lively paſſions, acute and painful ſenſations, and

and vigorous or vehement exertions, are accompanied with ſuch correſponding motions, or vibrations, in the brain and nerves, as are capable of exciting the moſt conſiderable, and violent commotions, and are often productive of the moſt extraordinary, as well as the moſt ſerious, and permanent conſequences. Some of theſe have been already mentioned, and many more will be enumerated in treating of the effects *of intenſe application of mind*,—— *of inordinate paſſions*,——*and of too great activity of imagination*,——upon which I am now entering. In conſidering the former of theſe I am to enquire into the effects of too great application of the mind——

1. *To Study.* —— The mind cannot long continue in a ſound ſtate; or perform its functions with regularity and preciſion; unleſs, among other circumſtances, the vibrations excited in the brain, by the action of external objects, or by the operations and emotions of the mind, be in general *moderate, various, free and unobſtructed.*

ſtructed. For ſtrong and *immoderate* vibrations tend to obliterate, or to prevent the excitement of, others,—as the ſpreading circles of waves on the ſurface of a lake, originating from the immerſion of a large body in its water, readily ſwallow up, and obliterate, the ſmaller ones occaſioned by diminutive pebbles thrown within the circumference of their fluctuation ;—or to excite ſuch others only as happen accidentally to be intimately, or recently aſſociated with them ; and even magnify ſuch aſſociated vibrations ; while they obſtruct, or diminiſh, others with which they have no ſuch connection ; and of courſe prevent the regular operations of the mind, and the natural progreſs, or excitement, of aſſociated vibrations : —— uniform and *invariable* vibrations, imply a limitation, and conſtraint, which are the reverſe of that eaſy variety of excitement, which a ſound ſtate of brain, and mind, admit of, and require : —— and

confined

confined and *obſtructed* vibrations imply ſuch imperfection in the ſtructure of the brain, or ſuch habitually impeded, or ſuch violent excitement, as are incompatible with the rectitude of thoſe mental operations on which depend juſt reaſoning, and a ſound underſtanding.

But it is of the nature of cloſe, and unremitted thinking, and eſpecially if long continued, and confined to one, or a few objects, to excite *intenſe*, *uniform*, and *limited* vibrations; as well as in various other ways to impede the ſound operations of the brain; and thus to tend to the generation of Inſanity, in a variety of ways:——for "when "a perſon applies himſelf to any particular "ſtudy, ſo as to fix his attention deeply on "the ideas and terms belonging to it, and to "be very little converſant in thoſe of other "branches of knowledge, it is commonly "obſerved that he becomes narrow-minded, "ſtrongly perſuaded of the truth and value "of many things in his own particular ſtu-"dy, which others think doubtful or falſe,

"or

" or of little importance, and after ſome " time ſubject to low ſpirits, and the hypo- " chondriacal diſtemper."—For—" The per- " petual recurrency of particular ideas and " terms makes the vibrations belonging " thereto become more than ordinarily vivid, " converts feeble aſſociations into ſtrong " ones, and enhances the ſecondary ideas of " dignity and eſteem which adhere to them, " at the ſame time that all theſe things are " diminiſhed in reſpect of other ideas and " terms, that are kept out of view; and " which, if they were to recur in due pro- " portion, would oppoſe and correct many " aſſociations in the particular ſtudy, which " are made not according to the reality of " things, and keep down our exorbitant " opinions of its importance. The ſame " perpetual recurrency of vibrations, affect- " ing one and the ſame part of the brain, in " nearly one and the ſame manner, muſt ir- " ritate it at laſt, ſo as to enter the limits of " pain, and approach to the ſtates peculiar " to fear, anxiety, deſpondency, peeviſh-

neſs

"neſs, jealouſy, and the reſt of the tribe of "hypochondriacal paſſions."¶

ALL theſe effects are aggravated, and the danger of Inſanity is much more conſiderable, if, inſtead of one particular ſtudy, the attention of the mind be ſtill more limited, be invariably rivetted to one, or to a few connected notions, and be for ever pacing in the ſame train of thoughts.

BUT whether the application of the mind be long and inceſſantly confined to one ſtudy, or to one particular train of thinking, or not, it has a tendency to produce ſimilar effects, by its intenſity; and at the ſame time to give occaſion to ſuch other changes in the brain, and in the whole body, as well in other ways, as by its intenſity, as conſpire to aggravate the effects juſt mentioned, and variouſly,

¶ HARTLEY *on Man*. Vol. I. p. 397.

riouſly, and powerfully militate towards the total overthrow of the good order, and rectitude, of the mental operations. As will plainly appear when we attentively conſider the ſeveral effects, and concomitants, of cloſe and unremitted thinking. For, in the firſt place——

(a). WHEN the mind has continued long in an intenſely active ſtate, and eſpecially when it has been thus laborioufly employed about one object, it *finds a difficulty in reſtraining its own activity, and in removing its attention from the object which has ſo long engaged it*; as is obvious to the experience of every man who has uſed himſelf to exact, and patient thinking. And this happens from the tendency which vibrations in the medullary ſubſtance of the brain, when once excited, have to continue; and from the increaſe of that tendency in proportion to their intenſeneſs, and duration: juſt in the ſame manner as, when the ſame impreſſion has been made for a long time upon the eyes or ears,

ears, or upon the common ſenſe of feeling, the idea of it will be for a conſiderable time continued, and perpetually recurring, after the object which gave occaſion to it is withdrawn, or ceaſes to act. Thus when we have long been expoſed to a glaring light, we can ſcarcely ſee at all, for ſome time after exchanging it for the common light of day; when we have been long attending to a favourite ſong, or have been employed for a whole evening in dancing, it frequently happens that the air we have admired is forever vibrating in our ears, or that the muſic and dancing are continued, in imagination, during the ſucceeding hours of repoſe; and, when we have been but for a few days at ſea, the impreſſion made on the brain, and nerves, by the motion of the ſhip, has ſometimes been found to remain after we have been ſeveral days at land.

BUT the mind having once loſt, in any great degree, the power of commanding, and regulating its own attention, of turning it with

with facility from one object to another, and of reſiſting the forcible, and continual recurrence, of any particular ideas, or notions, is apt at length to be ſo bewildered by inceſſantly brooding upon the ſame objects, as to become entirely paſſive, and to be carried along with the ſtream of that activity of the brain, and thoſe violent vibrations, which itſelf had excited, but can no longer control, or reſiſt; and, vibrations ariſing with little order, and ſucceeding one another by the ſlighteſt, and moſt accidental connections, and poſſeſſing the whole attention of the thus faſcinated, and unoppoſing mind, which is not now at liberty to look round, to bring into review, and to compare, the various ſtores collected by its former experience, the moſt ſlight, and accidental connections, and the moſt unnatural, and fantaſtical aſſociations, will acquire the force, and poſſeſs the authority, of the moſt powerful and juſt; vibrations originally derived from the impreſſions of external objects, and fortuitouſly renewed in their abſence, will be as vivid, and receive the

the ſame credit, as when they were preſent; and the mind will become the ſport of a variety of abſurd ideas, notions, and ſenſations, which have little or no proper relation to the real exiſtence of external objects, or adequate foundation in former experience, or aſſociation, but are the natural and unavoidable reſult of ſuch ungovernable activity, and inordinate vibrations: in a word, reaſon will be overpowered, and Inſanity will aſſume her place.

INDEED, as it is of the nature of Inſanity to dwell upon the ſame ideas, and notions; ſometimes almoſt to the excluſion of every other; and to aſſociate all that occur, however diſſimilar and unconnected, with the reigning ideas and notions; ſo intenſe application of mind to the ſame object, or objects, with little or no attention to others, and, as it too frequently happens, with the ſame diſpoſition to draw the moſt diſſimilar, and diſcordant objects, into an agreement with its favourite ideas, and notions puts the mind into

into a ſtate nearly reſembling that of Inſanity; and muſt, alſo, in this way, be favourable to its production.

THE danger of Inſanity from this cauſe will likewiſe be farther augmented by the wearineſs, and debility, with which the brain will be affected in conſequence of the fatiguing uniformity of long and exceſſive exertion: for its vigour being exhauſted by this inceſſant labour, its operations will be rendered languid, unſteady, and indeciſive: effects, which when once produced, will not readily be overcome; and will tend to facilitate the approaches of Inſanity, by giving occaſion to diſorderly vibrations, and diſturbing the due operation of the natural, and habitual aſſociations.

IT may farther be remarked that habits once acquired, whether bodily or mental, are not eaſily overcome; that the deviations from mental perfection, ariſing from the cauſes juſt mentioned, will readily become habitual, and not without difficulty be laid aſide; and will

will thus facilitate the production, continuation, and recurrence of Inſanity.

HENCE we may perceive how nearly ingenuity and folly, great mental power and imbecillity of mind, genius and Inſanity, are allied to each other. But if unreaſonable application to ſtudy may overturn the ſtrongeſt mind; what are weak ones to expect from an imprudent indulgence in the ſame exceſs?

(b). INTENSE ſtudy is accompanied with *an accelerated action of the ſmall arteries of the brain.* For the employment of the brain in thinking, whatever be its ſpecific nature, appears to be productive of an increaſed activity of theſe veſſels; as is obvious from the heat, pain, ſenſe of fulneſs, and giddineſs of the head, and ſinging noiſe in the ears, ſome one or other of which are I believe univerſally, and all frequently perceived, after the mind has been for ſome time attentively engaged in the accurate inveſtigation of any difficult

ficult, or abſtruſe ſubject. Now it may be conſidered as a general law of the animal machine, not only that whenever there is an accelerated velocity of the circulation, and eſpecially when accompanied with a conſiderable degree of force, in the whole arterial ſyſtem, as in fevers of various kinds, a diſproportionate quantity of blood will be ſent to, and a conſequent accumulation of it take place in, the brain; whence it happens, among other cauſes, that fevers are ſo frequently attended with delirium; but that in whatever part of the machine accelerated oſcillations of the capillary arteries take place, a phlethoric ſtate of the part will be the neceſſary conſequence, till ſuch accelerated oſcillations ſhall have ceaſed, and the veins, whoſe activity does not appear to be increaſed in proportion to that of the arteries, ſhall have had time to reſtore the equilibrium.

THIS circumſtance readily accounts for the bleeding at the noſe, epileptic fits, lethargies, apoplexies, total want of ſleep, deliri-

ous

ous fevers, Inſanity and many other grievous complaints of the head, which have been known to accompany, or to ſucceed, intenſe ſtudy: and why, in particular, it ſhould be the occaſion of almoſt every ſpecies of delirious affection, will be rendered ſtill more evident, if we conſider the tendency of too cloſe thinking to produce delirium, and Inſanity, in the way already explained in the preceeding article.

THE quickneſs of hearing in many inſane perſons, and eſpecially in caſes of recent Inſanity, and when it is bordering upon the phrenitic ſtate, ſeems to be an indication of a ſtate of the brain, and its membranes, approaching to inflammation. And want of ſleep is often a ſymptom, and the aggravating cauſe, of this ſtate.

(c). IT is of the nature of intenſe application, and activity, of mind, *to prevent ſleep*; the want of which is a natural effect of that imbecillity

imbecillity of the mind, which renders it incapable of withdrawing its thoughts, without great difficulty, from objects which much engage its attention; and is a proof, as well as farther cauſe, of turgeſcency, active vibrations, and an approach towards an inflammatory ſtate, in the brain: and, if long continued, ſcarcely any thing more powerfully tends to diſturb the imagination, excite inflammation in the brain, and produce every kind and degree of delirium, and Inſanity. How this happens will appear exceedingly obvious, if we examine into the nature, cauſes, and effects of ſleep.

In ſleep the inſtruments of ſenſation, and voluntary motion, whoſe influence and operation depend upon their being in a ſtate to act upon, and be actuated by, the mind, are at reſt; the mind having, during the repoſe of the body, little or no concern with the nerves: but the action of the heart and arteries, reſpiration, the periſtaltic motion of the ſtomach and inteſtines, neutrition, ſecretion, excretion

excretion ſo far as voluntary motion is unconcerned, and the action of the ſphincter muſcles, continue their exertions; though with leſs force, and vigour, than when the body is awake. It is plain, therefore, that in the time of ſleep irritability is diminiſhed, and that the connection between the mind, and the organs of ſenſation, and of voluntary motion, is almoſt entirely ſuſpended: in a word, that the vital and natural functions are carried on, at this period, for the moſt part, by irritability only.

FOR it has been before obſerved* that "the nervous power, or property, of irrita-"bility, is capable of acting without influen-"cing, or being influenced by, the mind; "without the mediation either of ſenſation, "or volition; and is ſufficient of itſelf for "the performance of thoſe vital, and natural "actions, which can be performed without the

* See above, p. 124.

"the agency of any of the voluntary muſ-
"cles; as the circulation of the blood, the
"ſecretions, abſorption, perſpiration, and
"the like. That, when excited, therefore,
"by the natural ſtimuli, only to a certain
"degree, no ſenſation is produced; moſt of
"the vital and natural actions being capable
"of proceeding without it. But that when
"excited by theſe in an unuſual, or by any
"of the other corporeal ſtimuli, in a greater
"degree, it acts upon the mind, and ſenſati-
"on is excited of ſuch a kind as correſponds
"to the cauſe of its excitement."

THIS may lead us to account for the ſuſpenſion, in a great meaſure, of the powers of voluntary motion, and ſenſation, during ſleep; with only the diminution of thoſe of the action of the heart, and arteries, and of the other vital and natural operations.

IT is certain that the increaſe of irritabili-
ty, the preſſure and agitation of muſcular mo-
tion, and the influence of a great variety of
external

external and internal ſtimuli, when we are awake, invigorate and quicken the action of the heart and arteries, and augment the quantity of blood ſent to the brain. An accumulation, therefore, of blood in the veins of the head will take place in the day time, and will be gradually increaſing; while on the other hand, the nervous power will be inſenſibly waſting; till in the evening, the accumulation having acquired ſuch a magnitude as to compreſs the brain to a certain degree, and the nervous power being ſo waſted as to produce great languor, and inability of exertion without powerful ſtimulation, irritability will be diminiſhed, both from ſanguineous accumulation and preſſure, and from nervous inanition; the velocity of the circulation will begin to decline; the nerves will become incapable of conveying ſenſation from external objects to the mind, or voluntary motion from the mind to the muſcles; and this ſtate will be what we call ſleep; in which the commerce between the mind and body

body is much diminiſhed, and ſometimes appears to be almoſt entirely ſuſpended.

DURING the ſtate of ſleep the expenſe of nervous power nearly ceaſing, and its reparation going on, perhaps even more perfectly than in our waking hours, the waſte of it incurred in the day time is gradually made up, and the blood circulating much more ſlowly during ſleep, the veins of the head return it from thence faſter than it is ſupplied by the now languid action of the arteries, and inſenſibly reeſtabliſh the equilibrium which their more rapid motion had deſtroyed in the courſe of the day; and the ſpirits being in this way recruited, and the compreſſion of the brain taken off, ſleep quits us for a ſeaſon, and in reſtoring us to activity, and the buſineſs of life, leaves us expoſed to thoſe cauſes which, after a ſhort interval of waking, and active animation, will return us back, to experience again the benefit of his ſalutary influence.

THE

THE requiſites, therefore, to ſleep being, with great probability, ſuppoſed to be a waſte of nervous power,——a moderate compreſſion of the brain,——a conſequently ſlower and more languid action of the arterial ſyſtem than when we are awake, and a general diminution of irritability to a certain degree;—— it is eaſy to conceive why ſenſation, and muſcular motion, may be nearly ſuſpended while we ſleep; and yet thoſe vital, and natural proceſſes, which depend ſolely upon irritability, proceed, in the mean time, with regularity, and effect.

THESE circumſtances uſually take place in the evening of the day; the coming on of darkneſs, and the ſtillneſs of the night, by withdrawing the ſtimulation of light, and noiſe, giving aid to the operation of theſe internal cauſes of repoſe.

AND as their influence is promoted by the abſence of common ſtimuli; ſo it may be prevented

prevented by the preſence of uncommon ones.

For ſtrong ſtimuli will excite ſenſation, and give to the mind the power of exciting motion, even in a torpid ſtate of irritability; and vigorous excitement will readily give temporary, and ſometimes even long-continued ſtrength and activity, when the waſte of nervous power, and unuſual watching, might ſeem to proclaim the return of debility and torpor, and to demand the refreſhment of ſleep; the exceſs of the ſtimulus counterbalancing the defect of itritability, and perhaps, by its influence upon the brain, furniſhing it for a time with freſh ſupplies.

Now intenſe mental action is ſuch a ſtimulus, and, though it exceedingly waſtes the ſpirits, and promotes the accumulation of blood in the brain, is yet one of the moſt powerful enemies we know to ſleep. Paradoxical as this may ſeem, it may, I think be accounted for; and the explanation of it will

prepare-

prepare the way to account for the agency of *watching* in the production of Insanity.

THE increased action of the small arteries of the brain, which always accompanies intense thinking, is a powerful stimulus to that organ: and a general fulness of the vessels of the brain, the natural consequence of their increased action, the increased action of the small arteries from whence it took its rise still continuing, when existing only to a certain degree, is also a powerful stimulus: compression of the brain, within certain limits, probably acting as a stimulus by the uneasy sensation which it excites; and the increased action of the capillary arteries, and stimulating fulness of the vessels of the brain, possibly promoting in some degree the generation of nervous power. Intense thinking may, therefore, drive away sleep, notwithstanding that it wastes the nervous power in certain respects, and gives occasion to compression of the brain.

THE increaſed activity of the ſmall arteries of the brain, excited by intenſe thinking, having carried the compreſſion of that organ beyond the boundaries of natural ſleep; and being kept up, and even aggravated, by the irritation ariſing from that compreſſion, as well as by the excitement produced in the brain by their own accelerated action, and by the continuation of that intenſe thinking from which it at firſt originated, and which theſe various effects of its own operation have now rendered the mind incapable of reſtraining; an approach to a ſtate of inflammation in the brain will commence; and even an actual inflammation may come on; and in either way delirium may be produced; and, as the inflammatory affection of the brain is more or leſs violent, death, or Inſanity, may be the unhappy termination: or, the accumulation of the blood in the veſſels, and the conſequent compreſſion, increaſing, a lethargic, and almoſt apoplectic ſleep, may take place; which may either terminate fatally, or may leave the brain ſo impaired as never perfectly to recover its

ſound

ſound and healthful ſtate, or be a fit inſtrument for the rational exerciſe of the mental operations: but, ſhould the brain happily reſiſt the violence done to it by intenſe and unſeaſonable exertion, without receiving any eſſential injury, a deep, and long continued ſleep, may reſtore it to its former tone, and repair the waſte of immoderate activity and watching.

A very curious inſtance of the extraordinary and pernicious effects of intenſe thinking, in preventing ſleep, is related by BOERHAAVE; the circumſtances of which are ſtrikingly analogous with the doctrine here advanced. He tell us† "that having im-
"prudently given way to thinking, on a ve-
"ry ſerious matter, from the morning early,
"till the ſetting of the ſun, of a long ſum-
"mer's day, he did not once cloſe his eyes,
"day or night, for ſix weeks after; during all

† *Prælect. Academic. in proprias Inſtitutiones Rei Medicæ.* Tom. VII. p. 141.

"all which time he was perfectly indifferent "to every thing, and nothing whatever af- "fected him. That this ſtate was ſucceeded "by pain all over his body; a ſign, as he "obſerves, that the animal ſpirits, which "were now recruited, were returning into "their wonted channels, and again diffuſing "themſelves over every part of the body."

FROM this account of the effects of thinking ſo as to put off ſleep, we may ſee the danger of ſtudy protracted into the night, and encroaching much upon the hours of reſt, even where the application of the mind is not very intenſe; ſince, at leaſt, it exhauſts the body by fatigue, and robs it of the ſeaſonable, and neceſſary repair of ſleep; and by reſiſting the natural and ſalutary tendency to the refreſhment of repoſe, may, by thus doing violence to nature, beſides aggravating the evil tendency of too much exerciſe of the brain, give occaſion to a variety of other bad conſequences, highly injurious to health, and comfort; and which may prepare the way to the introduction

introduction of Insanity by other inlets, which, though more remote and less sudden, may not be free from considerable danger; the precluſion of which may merit our moſt ſerious attention. Of theſe more remote ways by which too diligent application to ſtudy may introduce Inſanity, I come now to take ſome notice; having hitherto chiefly attended to the direct, and immediate operation, of intenſe ſtudy upon the brain, by which its functions may be diſturbed, and this diſorder be produced. For ——

(d). IT is farther to be obſerved, that too much, and intenſe thinking, beſides favouring the production of Inſanity by its immediate effects upon the brain, has a remote, and reflex influence, as has been juſt hinted, which powerfully tends to bring about the ſame unhappy conſequences: ſince, in various ways, *it weakens the ſtomach, and inteſtines, and the whole nervous ſyſtem, as well as the brain itſelf*; the debility of all which are powerful cauſes of hyſterical, and hypochondriacal

driacal ſymptoms, and, in the end, of Inſanity. And this it does, (1) both of itſelf, and by its own direct influence upon theſe parts; and (2) by the aſſiſtance, and conſpiration, of various concomitant circumſtances.

(1.) INTENSE thinking tends remotely to the introduction of Inſanity, by its immediate influence upon the nervous ſyſtem. For *(a)*, in the firſt place, it waſtes the nervous power, fatigues exceſſively, and, if long perſiſted in, of courſe permanently debilitates the body in a great degree, and impairs all the functions on which healthful tones, and vigour of mind, depend. It is an obſervation of VAN SWIETEN that a "philoſopher, after he has been immerſed in "profound meditation for ſeveral hours, feels "himſelf more exhauſted, than he would do "if he had been uſing, for the ſame ſpace "of time, the moſt violent bodily exerciſe: "all the functions of the brain depending "upon the fineſt fluid in the body, and con-

"ſuming

"ſuming it by their operation."‡ For ſtudy while it fatigues, debilitates, by diſturbing the other functions of the brain, by impairing all the vital and natural actions, and by checking the ſupply, as well as by waſting the fund, of the nervous power; whereas exerciſe, while it fatigues, and waſtes the nervous power, invigorates, by promoting the vital and natural actions, and thus overpaying, if not immoderate, the waſte of power which the exertion of the muſcles had incurred. It is, therefore, obvious how intenſe ſtudy may, in this way, produce debility, and all its tormenting nervous, conſequences; how it may occaſion want of appetite, nauſea, great weakneſs of the ſtomach, and tremor, ſo familiar to literary men; how it may give riſe to the ſinging noiſe in the ears, which is often very troubleſome when the mind has been long, and cloſely employed, and eſpecially on a momentary

‡ *Comment. in* BOERHAAV. *Aph.* § 1093. Tom. III. p. 466.

mentary ceſſation of intenſe thinking, ſo as ſometimes almoſt to excite a vertigo; and how it may introduce a variety of ſpaſmodic, and hyſterical ſymptoms, and the whole train of diſtreſsful feelings and apprehenſions accompanying the hypochondriacal diſeaſe. But this is not all, for *(b)*, in the next place, intenſe thinking, as has been already noticed,† diminiſhes irritability, and produces a torpid ſtate of the nervous power; partly, perhaps, by withdrawing in a great meaſure from the nervous ſyſtem in general, the ſtimulus of the mind; and partly by diſturbing, and impeding, the other functions of the brain. For it makes the body almoſt inſenſible to thoſe natural and other ſtimuli, internal and external, which by their irritation give life, and vigour, to the nervous power; ſuffers it to languiſh for want of excitement; and thus gives occaſion to torpor, and debility, in all the vital and natural motions, crudity

† See above p. 123, and 147.

dity in the firſt paſſages, and the other obvious conſequences both in the body and mind. And that intenſe thinking ſhould diſturb the other functions of the brain ſeems highly probable, if it be conſidered that, while the mind is thus buſily occupied, the brain is in a ſtate of activity correſponding to the intenſe activity of the mind, and that the unuſual motions and vibrations, thus excited in it, will be likely to impede thoſe which are requiſite to the due performance of its other functions, on which the vigour and well being of the vital and natural operations, and the general health of the body, depend. And beſides (c) the conſtant exertion of the brain in thinking too intenſely will weaken that organ itſelf by exceſs of exerciſe, — by diſturbing the performance of its other functions, — and by weakening the body in general, with which the brain muſt conſequently ſuffer; and the brain being debilitated, the faculties of the mind will loſe their vigour; the memory, and attention, will fail, reaſon will

will be obſcured, imagination will be irregular, its ſuggeſtions will be too much credited, a thouſand vain fears and abſurd fancies will riſe out of the ruins of right reaſon and ſound judgment, and the man who, as TISSOT* obſerves, would, a few months before, "have ſtood unhurt amidſt a falling world" will now become the ſport of every childiſh whim, and groundleſs apprehenſion.

(2.) INTENSE thinking tends to give occaſion to Inſanity, by ſeveral of its uſual concomitants; as *(a)* by the inactivity of a ſedentary life; *(b)* by the common cuſtom of literary men of ſtudying immediately after meals, and eſpecially if the meals have been hearty ones; *(c)* by late hours, and want of ſleep; *(d)* by the ſolitude, gloomineſs, and moping, which often attend upon a cloſe application to ſtudy; and *(e)* by the anxiety, vexation, diſappointment, dejection, and other

* *Serm. Inaug. de Valetud. Literator.* p. 15.

ther paſſions which attend any particular ſtudy, or accidentally, from ſome external cauſe, intrude upon the ſtudent, and vex, and agitate a mind already too much, and often not very agreeably, exerciſed. The influence of all which in laying a foundation for Inſanity is too obvious to need illuſtration.

2. To BUSINESS, *or* SCHEMES, *of any kind, that require great and unremitted attention, or much exertion of genius.* —Great application of mind, and intenſe thinking, whether to the ſtudies of philoſophy, and literature, or to buſineſs, or ſchemes of any ſort, will have the ſame effects, where the attention and exertion of mind, and other circumſtances, are the ſame. Where buſineſs, therefore, or ſcheming, are accompanied with a ſedentary life, their effects will be ſo far ſimilar to thoſe of ſtudy. But where they are connected with bodily exerciſe, and an active intercourſe with the world, as not unfrequently happens, their tendency to give occaſion

caſion to Inſanity will ſo far be diminiſhed. But, on the other hand, the hopes, fears, vexations, and diſappointments, which are the too common companions of buſineſs, and ſcheming, and eſpecially when united to intenſe thinking, are ſuch powerful cauſes of Inſanity, that we much more frequently find it originating from great attention to theſe purſuits, than from exceſſive application to the inquiries of the learned. In the ſeminaries of literature it may probably be otherwiſe; and the greater proportion of men of buſineſs, out of theſe ſeminaries, in a mercantile country like this, may be alledged as a reaſon why we ſee more inſane tradeſmen, and merchants, than men of learning, and philoſophers; and, poſſibly, with truth. But whatever be the cauſe, the fact is, I believe, as I have repreſented it. Another cauſe why we more commonly meet with inſtances of Inſanity which have originated from intenſe application to buſineſs and ſcheming, than to learned and philoſophical ſtudies, may be,

be, that watching is, perhaps, a more frequent attendant upon the anxieties, and vexations, of the former, than upon the mere application of mind to ſtudy; which is rarely accompanied with any great degree of theſe paſſions, excepting when it is combined with proſpects of gain, and emolument, and degenerates into buſineſs, and ſcheming. How intenſe application of mind operates, in theſe caſes, will be obvious from what has already been pretty fully explained of the effects of its application to learning, and philoſophy; and the operation of the paſſions, which has before been explained in part, will be more copiouſly illuſtrated when I come to treat profeſſedly of the paſſions as cauſes of Inſanity. I now proceed to conſider the production of this diſorder by ——

3. *Any ſort of* EMPLOYMENT of the MIND *which may keep it for a long time in an active and* WAKEFUL *ſtate.* —— A long want of ſleep, from whatever cauſe it may originate,

nate, is favourable to the production of delirium, and Inſanity; ſince it muſt put the brain into a ſtate of activity, and plenitude, which we have already ſhown to diſpoſe to them, when conſidering the effects of intenſe thinking, and ſtudy. Beſides, therefore, thoſe mental operations before mentioned, whatever exerciſe of the mind is ſufficient to counteract the accuſtomed propenſity of the body to ſleep, and to keep it for a long time in a ſtate of vigilance, will not only injure the body, but, both by its immediate action upon the brain, and by the remote conſequences of ſuch action, as well as by other unavoidable, incidental circumſtances, much endanger the health of the mind. Inſanity, therefore, may be the conſequence of long watching, ariſing from great attention of mind, not only to ſtudy, buſineſs, or ſchemes, of any kind, but to whatever elſe may demand, or call forth, its waking exertions; whether the employment of the mind which gives riſe to them be confined to one, or di-

vide

vide itſelf among a variety of objects; whether it be free from paſſion of any ſort, excepting the mere deſire to keep awake, or be accompanied with, or cauſed by, anxiety, or any other paſſion whatever, either painful, or pleaſing; all of which tend, more or leſs, to give occaſion to Inſanity, in proportion as the want of ſleep is continued for a longer or ſhorter time; as the attention of mind is more or leſs intenſe, or more or leſs confined to one object; as it is with, or without, the agitation of paſſions; and according to the nature, and violence, of the paſſions which may happen to accompany it.

HENCE Inſanity may derive its origin from long continued ſitting up, and unremitted attention, with little or no ſleep, in nurſing the ſick; of which I have known an inſtance: from ſevere watching without intermiſſion in towns that are beſieged: from an inability to ſleep owing to the agitation of ſome unconquerable paſſion; or from any other cauſes, of which there is great variety, that

that require, or may occaſion, long and unremitted wakefulneſs.

INSTANCES of the production of Inſanity by every mode of too intenſe application of mind, which has been mentioned in this fifth diviſion of the cauſes, are numerous and affecting; and ought to warn the ſtudent againſt the intemperate purſuit even of knowledge itſelf, and to teach him that exerciſe of mind, like that of the body, when violent and exceſſive, may weaken and deſtroy the health which it was intended to invigorate and improve; to guard the man of buſineſs, and the ſchemer, againſt the too eager proſecution of their favourite objects; and to convince all mankind of the danger of perſevering in any ſort of employment of the mind, which may keep it for a long time in an active, and wakeful, ſtate.

VI. *Paſſions of various kinds, when ſudden, violent, or habitual.*

THE paſſions were undoubtedly implanted

ed in our nature for wiſe, and beneficent, purpoſes; but the folly of man has perverted them to the moſt abſurd, and pernicious. They are the ſervants, not the maſters; the means, under the guidance of reaſon, not the end, of human happineſs: and to fulfil their appointed deſtination, in promoting the well-being of mankind, they ſhould be various, gentle, calm, and manageable; and only in ſuch a degree indulged, as is proportioned to the attainment of ſome reaſonable, and valuable purpoſe.

ACCORDING to the doctrine of the ſtoics, and other philoſophers, the paſſions are founded on our notions, or opinions, of GOOD and EVIL, whether preſent or abſent. If we form a proper judgment, and eſtimation, of the things, and occurrences, of this life, we ſhall never be immoderately depreſſed by the *evil*, nor elated by the *good*, either preſent or impending, in proſpect or in the enjoyment. But if we ſuffer ourſelves to judge

judge irrationally of things, and occurrences; and value them, not according to their real nature, and importance to human happineſs, but according to thoſe erroneous notions, and opinions, which we may have been led imprudently to form of them, by the miſguidance of appetites, prejudices, and irrational aſſociations; we ſhall then be liable to experience all thoſe exceſſes of paſſion, which will inevitably mar the happineſs which we ſeek after; and may, poſſibly, in one way or other, drive us into madneſs.

IF, yielding thus to the impulſe of the appetites, prejudices, and irrational aſſociations, of whatever kind, we permit ourſelves to be elated with the poſſeſſion of what we eſteem *preſent*, or to be immoderately impelled to the future acquiſition of what we eſteem *abſent good*; we experience, in the former caſe, the paſſion of turbulent JOY; and, in the latter, of uneaſy DESIRE: if we are alarmed with the threats of *abſent evil*, we ſuffer from the paſſion of FEAR; and, if we are oppreſ-

ſed

ſed with the weight of *preſent evil*, we ſink under the agonies of DISTRESS.

WISE men, therefore, allow themſelves to be but little affected by any of the paſſions. But as we are all impelled by nature to *avoid* whatever appears to us to be *evil*, and to *chooſe* what appears to be *good*;——ſo a wiſe man is *pleaſed* with *preſent good*, and may *will* to obtain the *abſent*; is careful to *avoid* probable or *impending evil*, and patiently *endures* the preſſure of the *preſent*: but his hopes and fears, his pleaſures and his pains, are always ſober, and moderate, and directed by reaſon to thoſe good ends for which the benevolent author of our nature deſigned them.

BUT the bulk of mankind, unhappily for themſelves, are not wiſe; and indulge, to their own unſpeakable hurt, every kind of irrational and ungovernable paſſion. They ſuffer themſelves to be tranſported with *joy*, and diſſolved in *pleaſure*, at the obtaining, and in

in the fruition of any *preſent good*; and to be hurried on and tormented with the *deſire* of poſſeſſing ſome *abſent one*. They are terrified with the *fear* of approaching or *impending evil*; and, with a puſillanimity unworthy of rational beings, ſink under the weight of *preſent evil*, and are *afflicted* beyond meaſure with that which a becoming patience, and fortitude, and more rational views of good and ill, would annihilate, or render tolerable. For, indeed, we may truly ſay with HORACE, of all thoſe things which are uſually eſteemed the moſt grievous evils in this life, and of which the wiſeſt of us cannot but have ſome feeling, ——

'Tis hard: but patience muſt endure,
And ſooth the woes it cannot cure.*

NOW as every paſſion is accompanied with

* Durum: Sed levius fit patientia,
Quicquid corrigere eſt nefas.
Carminum Lib. I. Od. XXIV. v. 19.

with a correſpondent ſtate of body, as has been already obſerved, produced by the intervention of the brain and nerves; and every ſuch ſtate of body, nerves, and brain, is accompanied with, or at leaſt tends to promote, a correſpondent paſſion: ——

AND as every paſſion, in proportion to its degree of violence, conſiſts in an active ſtate of the mind, and brain, in which the objects of the preſent paſſion are inceſſantly recurring to the imagination, become peculiarly intereſting, and with difficulty give way to ideas of a different nature: ——

AND as vigorous, and intenſe vibrations, once excited in the brain, are diſpoſed to ſuppreſs, or obſcure, all others that are not immediately connected with them; to continue with obſtinate pertinacity; and readily to be renewed, on the ſlighteſt occaſion, while the impreſſion of them remains recent; and, in ſhort, to produce ſuch a change in the ſtate of the brain, and nerves, as to give a preternatural

natural facility to their excitement, and a ſtrong propenſity to their becoming habitual; and as an active ſtate of the brain, which is thus intenſe, uniform, unceaſing, and habitual, is exceedingly apt to diſorder the reaſoning faculties; as has been ſhown above in treating of intenſe thinking: ——

AND as, therefore, the active ſtate of the ideas, and vibrations, of the mind and brain, accompanying the paſſions, will of courſe increaſe by indulgence,——grow by degrees into a habit,——and at length take the ſole poſſeſſion of them, and exclude, or draw into their vortex, every other idea and vibration: ——

IT appears evident, from theſe conſiderations, that the paſſions muſt be powerful cauſes of *Inſanity*, which is itſelf nothing more than ſuch a ſtate of mind, as I have now deſcribed, become habitual, and permanent.

WHEN Inſanity originates from the paſſions,

ſions, it is uſually, at firſt, only *notional*: but ſuch intenſe, and uniform activity of mind, generally, ſooner or later, in proportion to its nature and violence, produces *ideal Inſanity*, and often the very exceſs of phrenſy.

IMAGINARY GOOD and EVIL, preſent or abſent, as I have remarked above, are conſidered by the antient STOICS, as the ſources of all the *paſſions*. But as they eſteem the paſſions to be enemies to real happineſs, and think it unbecoming a wiſe man to be, *in any degree*, influenced by them; they have given another title to thoſe affections which a wiſe man may feel towards *good and evil*, and have denominated them CONSTANTIÆ, or *conſtancies*; a term which has not been adopted, as I can find, into our language, and which conveys an idea for which I know of no appropriate Engliſh appellation. They conſiſt in a certain ſtrength, firmneſs, and perſeverance of mind, in forming a true eſtimation

mation of the value of things, which will not ſuffer it to be improperly affected by any of the objects of the paſſions; and they receive different names, accordingly as they are moſt allied to one, or to another of them. From *preſent good* they allow a wiſe man to feel ſatisfaction, and they acknowledge the propriety of a volition to obtain any *abſent good*; nor do they blame a prudent attention to the avoidance of any *threatening evil*. Thus the PASSION of *joy* is, in a wiſe man, nothing more than the CONSTANCY of *ſatisfaction*; —— *deſire* is mere *volition*; —— *fear* is only *caution*; —— and *diſtreſs* has no *correſponding conſtancy*. They might, I think, very juſtly have made one of *patience* under the preſſure of preſent evil: but as they will not allow that a wiſe man can experience any evil, ſo they will not permit him to be any way affected by the preſence of ſuch things as even the wiſeſt of men, who have not adopted this chimerical notion of the ſtoics, muſt confeſs that they feel to be evils, though they may have

have learned to bear them, as they ought, with becoming patience, and reſignation.

OTHER writers, therefore, both antient, and modern, but eſpecially the moderns, ſenſible of this abſurdity into which the ſtoical principles neceſſarily led them, and yielding themſelves to be guided by the natural feelings of the human heart, have judiciouſly granted that the things, and occurrences, of this life, may be good or evil to the wiſe man, as well as to the fool: that the former, therefore, may very conſiſtently, and philoſophically, acknowledge thoſe feelings which he cannot avoid: and that the only difference, in theſe reſpects, between him and the latter is, that while the fool feels immoderately, the wiſe man is but gently, and momentarily affected; and that while the one feels only real good and evil, the other is agitated, and diſtracted, by a thouſand things, as untutored fancy and irrational prejudices direct him, which

which in their own nature are neither good nor evil.

SOME moderns, among whom are the celebrated French philoſopher DES-CARTES, and our very ingenious countryman the elegant author of the *Philoſophical Inquiry into the origin of our ideas of the ſublime and beautiful*, have added, and I think not without reaſon, though it might poſſibly be reſolved into one of thoſe already mentioned, another ſource of paſſion, which is NOVELTY; and the principal paſſion of which it is the object is *curioſity*, according to Mr. BURKE; and according to DES-CARTES, *admiration*; paſſions, which, when properly indulged, are the ſources of a real, innocent, animated, and beneficial pleaſure; but, when indulged without moderation, or reſtraint, will often be the parents of much miſconduct, anxiety, and diſtreſs.

TAKING theſe, therefore, into the number

number, the *principal paſſions* are *ſix*,—— CURIOSITY,—— ADMIRATION,—— JOY or *pleaſure*,—— DESIRE,—— DISTRESS,—— and FEAR.

THE various modifications of theſe principal paſſions are almoſt endleſs. I ſhall here enumerate only a few of the moſt conſiderable, which I ſhall do in the order of the principal paſſions out of which they grow; and ſhall afterwards, in the ſame order, deſcribe them at large, and ſhall eſpecially dwell upon ſuch of them as moſt powerfully, or characteriſtically, affect both the mind and body.

THE moſt conſiderable of the paſſions, principal, or derived, ſeem to be —— CURIOSITY, *admiration*, *wonder*, *ſurpriſe*, *aſtoniſhment*;——JOY, *enthuſiaſm* or religious joy, *vanity*, *malevolence*;——DESIRE, *hope*, *anger*, *hatred*, *love*, *ambition*, *avarice*;—— DISTRESS, *envy*, *pity*, *grief*, *dejection*, *deſpair*;——FEAR, *conſternation*, *terror*, *ſhame*, *ſuſpicion*,

ſuſpicion, *jealouſy*, *anxiety*, and *religious fear* ariſing from ſuperſtition, or enthuſiaſm.

THE paſſions of the FIRST CLASS have for their object *novelty*; towards which as they variouſly relate, they receive the ſeveral names of—CURIOSITY, *admiration*, *wonder*, *ſurpriſe*, and *aſtoniſhment*.

WHEN we are ſimply impelled by the deſire of experiencing ſomething new, the paſſion we feel, if ſo gentle an emotion deſerves the name of a paſſion, is merely *curioſity*:—if, on the occurrence of new objects we, at once, perceive their relations to things which we already know, and there is ſomething uncommon, and beautiful, in thoſe relations, and which ſhews evident marks of wiſdom, power, or benevolence; or if, though when they firſt preſented themſelves we were not ſenſible of theſe relations, yet we readily perceived them after a more exact attention, or after they were properly explained to us by others to whom they were leſs obſcure; we then feel the paſſion of *admiration*:—but if ſuch objects,

objects, beſides being new, appear to have relations diſſimilar from any which we have hitherto experienced, and we can form no juſt and adequate conception, perhaps not even a probable conjecture, of their cauſes; and eſpecially if they appear to be quite inconſiſtent with what we uſually experience; we are then affected with *wonder*:——if ſuch objects appear ſuddenly and unaccountably, we are thrown into *ſurpriſe*:——and if, beſides all this, there be any thing vaſt, or terrible, or daring, in them, we are ſtruck with *aſtoniſhment* or *amazement*.

THE paſſions which ſpring from this ſource, when pure and unmixed, produce ſcarcely any commotion either in the mind or body; and are, therefore, when in that ſtate, but little allied to Inſanity: but as, when much indulged, they ſeldom long remain ſo, they readily become, by combining with, and aggravating, the other paſſions, a fruitful cauſe of that diſorder.

FOR

For though thoſe affections of the mind which have *novelty* for their object, ſeem ſcarcely to deſerve the name of paſſions; eſpecially *curioſity*, *admiration*, and *wonder*; and the two latter, *ſurpriſe* and *aſtoniſhment*, may be ſuſpected to have ſomething of an idea of *good* or *evil* mixed with the novelty of the object, whenever they excite any great commotion; yet this, at leaſt, is very certain, that *novelty*, in the various forms above deſcribed, much heightens our reliſh of *good*, and our abhorrence of *evil*; that it enlivens, or aggravates, the paſſions originating from theſe cauſes, with which it happens to be connected; and that long familiarity diminiſhes the effects both of the *one* and the *other*, and ſoftens the paſſions to which they are fitted to give occaſion:—ſo that though the univerſality of the poſition may be queſtioned, yet it muſt be acknowledged that there is much truth in the obſervation of the very ingenious, and elegant writer, abovementioned, that "ſome "degree of novelty muſt be one of the mate-

"rials

"rials in every inſtrument which works up-
"on the mind; and curioſity blends itſelf
"more or leſs with all our paſſions."§

NOTWITHSTANDING that the ſtoics conſidered our notions of *good* and *evil* as the ſole foundation of the paſſions, ye they could not but be well aware of the power of *novelty* in forming, and heightening, thoſe notions, and conſequently the paſſions which ariſe out of them; —and it was, probably, in part, with a view to this influence of novelty, in mixing with, and increaſing, all the other paſſions; as well as in exciting a reſtleſs uneaſineſs and diſſatisfaction with preſent objects, and a fruitleſs ſearch after abſent ones, which, loſing their novelty, again become ſtale, and vile, and taſteleſs in their turn; and thus throwing an imaginary value on things to which they had in their own nature no title; that they ſo much blame

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§ *A Philoſophical Inquiry into the Origin of our Ideas of the Sublime and Beautiful.* p. 2.

a ſilly admiration, and falſe eſtimate, of things, as the very bane of human happineſs; and that HORACE truly ſays, in one of his epiſtles ——

Not to admire, is of all means the beſt,
The only means to make and keep us bleſt.*

THE other, or SECOND CLASS of paſſions,

* Nil admirari prope res eſt una, Numici,
Solaque quæ poſſit facere & ſervare beatum.
Epiſt. VI. Lib. I.

There are ſome very judicious reflections in the SPECTATOR on the influence of *novelty*, and *admiration*, on all the paſſions.—"And as novelty is of a very powerful, ſo of a moſt extenſive influence. Moraliſts have long ſince obſerved it to be a ſource of admiration, which leſſens in proportion to our familiarity with objects, and, upon a thorough acquaintance, is utterly extinguiſhed. But I think it hath not been ſo commonly remarked, that all the other paſſions depend conſiderably on the ſame circumſtances. What is it but novelty that awakens deſire, enhances delight, kindles anger, provokes envy, inſpires horror? To this cauſe we muſt aſcribe it, that love languiſhes with fruition, and friendſhip is recommended by intervals of abſence: hence monſters, by uſe, are beheld without loathing, and the moſt enchanting beauty without rapture. That emotion of the ſpirits in which paſſion conſiſts, is uſually the effect of ſurpriſe, and as long as it continues, heightens the agreeable or diſagreeable qualities of its object; but as this emotion ceaſes (and it ceaſes with the novelty) things appear in another light, and affect us even leſs than might be expected from their proper energy, for having moved us too much before."——Vol. VIII. N° 626.

ſions, conſiſts of thoſe which have *good* or *evil* for their object; and comprehends all the remaining paſſions above enumerated; beſides many more,——as *complacency*, *ſatisfaction*, *ſecurity*, *confidence*, —— *favour*, *benevolence*, *friendſhip*, *devotion*, *gratitude*, *averſion*, *malice*, *ſcorn*, *deriſion*, *emulation*, *glory*, *courage*, *audacity*,——*diſſatisfaction*, *diſapprobation*, *remorſe*, *repentance*,——*doubt*, *heſitation*, *irreſolution*, and *puſillanimity*;—which, being modifications, and compoſitions, of the other paſſions already mentioned; or exciting but little commotion, bodily or mental; do not merit any particular attention here; as they have either little, or no agency, in the production of Inſanity, or none but what will readily be underſtood in conſequence of what will be ſaid of the principal, and leading, paſſions.

JOY is that emotion with which the mind is affected by the recent acquiſition, and preſent poſſeſſion, of ſomething which it eſteems valuable, and worthy of being received and

and enjoyed with a degree of pleaſing emotion, greater or leſs, in proportion to its eſtimation of the magnitude of the good acquired, and to the greater or leſs deſire, or expectation, it had entertained of acquiring it.

WHEN the acquiſition, and poſſeſſion, of what is eſteemed good, only excites in the mind an emotion of ſatisfaction, or rational pleaſure, it is as friendly to health as it is conducive to happineſs; and an habitual diſpoſition, which it is poſſible to cultivate, in almoſt every ſtation of life, to the indulgence of ſuch a rational ſatisfaction; call it *pleaſure*, *eaſe*, *content*, or what you will; not only invigorates the bodily conſtitution, but ſtrengthens the faculties of the mind, and tends to produce a healthful, and chearful, longevity. By exciting gentle, pleaſing, and animating, vibrations, it tends to give a due degree of vaſcular and muſcular tone, and inſenſibly to reſtore the elaſtic tone, which may have been injured, and diminiſhed, by diſeaſe;

diſeaſe ; and conſequently to give due force and activity to the whole vaſcular ſyſtem, to ſtrengthen the ſtomach and bowels, to promote appetite, digeſtion, inſenſible perſpiration, and all the other healthful ſecretions, and excretions ; and to invigorate every faculty of body and mind. ‡

BUT tumultuous, exceſſive, and irrational

‡ *Anger* and *joy* increaſe, and *fear* and *ſadneſs* leſſon, both perſpiration and urine. The ſoul, which has great power over the body by virtue of the æther, when it is made uneaſy by the paſſion of *anger*, raiſes a ſtrong vibrating motion in the æther within its *ſenſorium*, which motion is propagated through the nerves to all parts of the body. This ſtrong motion in the membranes of the heart quickens its contraction and dilatation, and thereby quickens the contraction and dilatation of the blood veſſels and ſecerning ducts, and of conſequence increaſes the diſcharges of perſpiration and urine, and that more or leſs in proportion to the ſtrength and continuance of the paſſion.——*Joy* affects theſe diſcharges, in like manner as anger. In the paſſions of *fear* and *ſorrow*, perſpiration and urine are leſſened, by a diminution of the vibrating motion of the æther, occaſioned by a depreſſion of the power of the will and activity of the ſoul, under theſe paſſions. Hence joy and anger increaſe, and fear and ſorrow leſſon, perſpiration and urine, and the weight of the body. And other paſſions, as they partake of theſe, will affect the diſcharges and weight of the body in like manner——Dr. BRYAN ROBINSON, *on the Food and Diſcharges of Human Bodies*. p. 77.

onal joy, is as injurious to the body and mind, as a juſt and grateful ſatisfaction is ſalutary to both. It produces a ſudden increaſe of tone, and irritability, a quick and often irregular circulation, and a general determination to the ſurface of the body; an increaſe of perſpiration, and other ſecretions, of heat, and of colour; a peculiarly increaſed activity of the veſſels of the head and brain, a highly active ſtate of imagination, great heat of the head, and flushing of the face. From the increaſed irritability, from the quick ſucceſſion of pleaſing ideas, from the accelerated motion of the ſmall veſſels of the head and brain, it is uſually attended with benevolence and generoſity, and often with tenderneſs and tears; and if ſudden, violent, or durable, has been known to produce fainting, fevers, Inſanity, and ſudden death.—In producing Inſanity it ſeems to be not leſs powerful than even grief. And it is remarkable that, as we are told by Dr. MEAD,¶ on the authority of Dr. HALE,

¶ *Medical Precepts and Cautions.* Chap. III. Vol. III. p. 46.

HALE, who was at that time phyſician to Bethlehem hoſpital, that of the great number of perſons who became inſane in conſequence of their connections with the South-Sea company, in the year 1720, there was a much larger proportion of thoſe ſucceſsful adventurers whom fortune had favoured with the ſudden acquiſition of immenſe riches, than of thoſe who were completely ruined by that iniquitous impoſition.

BY *religious joy* I do not mean that calm, but ineffable ſatisfaction, which is felt by thoſe perſons, whoſe lives are a ſeries of good actions, inſpired by genuine virtue, and true piety; and who are happy in the conſciouſneſs of the general goodneſs of their conduct, and of the rectitude of their intentions; and are perſuaded that, if they have not merited, they ſhall nevertheleſs certainly obtain, the favour and protection of a benevolent deity, both in this life, and in the next;—but that wild, and ill grounded joy, which is often experienced by people of weak minds, and narrow

narrow views; who have conceived an overweening opinion of their own ſanctity, or faith; or would gladly arrive at heaven by any merit but their own; and who, having learned the irrational jargon of ſome enthuſiaſtic ſect, fancy themſelves the only true believers, the ſaints, the elect, the favourites and ſometimes even the inſpired of God,‖ while

‖ "We ſee, ſays LOCKE, that in all ages, men, in whom melancholy has mixed with devotion, or whoſe conceit of themſelves has raiſed them into an opinion of a great familiarity with GOD, and a nearer admittance to his favour, than is afforded to others, have often flattered themſelves with a perſuaſion of an immediate intercourſe with the deity, and frequent communications with the divine ſpirit. God I own cannot be denied to be able to enlighten the underſtanding by a ray darted into the mind immediately from the fountain of light. This they underſtand he has promiſed to do, and who then has ſo good a title to expect it, as thoſe who are his peculiar people, choſen by him, and depending upon him?

§ 6. Their minds being thus prepared, whatever groundleſs opinion comes to ſettle itſelf ſtrongly in their fancies, is an illumination from the ſpirit of GOD, and preſently of divine authority: and whatſoever odd action they find in themſelves a ſtrong inclination to do, that impulſe is concluded to be a call or direction from heaven, and muſt be obeyed; it is a commiſſion from above, and they cannot err in executing it.

§ 7. This I take to be properly enthuſiaſm, which, though founded

while under the influence of religious enthuſiaſm and intoxication; by which, however, they are not unfrequently deſerted; for a ſtate of intoxication will ſometimes be ſucceeded by langour and depreſſion of ſpirits; and, in its ſtead, are harraſſed, and tormented, with *religious fear*, the gloom of deſpondency, and the horrors of *deſpair*, hereafter to be deſcribed.

THIS religious joy, or *enthuſiaſm*, produces effects on the body ſimilar to thoſe which are occaſioned by any other kind of joy; but, as it is ſeldom calm, and never rational, and too often interrupted by religious fear, its ſalutary operation is rarely very conſpicuous; and, on the other hand, as it is not

founded neither on reaſon nor divine revelation, but riſing from the conceits of a warmed or overweening brain, works yet, where it once gets footing, more powerfully on the perſuaſions and actions of men, than either of thoſe two, or both together: men being moſt forwardly obedient to the impulſes they receive from themſelves; and the whole man is ſure to act more vigorouſly, where the whole man is carried by natural motion —— *Eſſay concerning Human Underſtanding*. Book IV. chap. 19. § 5, 6, 7.

not commonly ſo ſudden, or ſo violent, as joy from ſome other ſources, ſo it ſeldom, or perhaps never, produces ſudden death; but as it excites very conſiderable, and often very permanent, activity of mind, and that activity is perpetually employed about one and the ſame ſubject; as it is not unuſually connected with a too irritable, and what is commonly called a nervous ſtate of the body; and always with weakneſs of judgment, ſtrength of imagination, and ſenſibility of paſſion; and as it too often, as has been before obſerved, alternates with religious fear; it has a tendency to terminate, either directly in Inſanity of the enthuſiaſtic kind;† or indirectly, by the interpoſition of religious fear, in deſpondency, and deſpair.*

Vanity,

† Inſtances of this are numerous, and ſeveral of them are related at length in the account of *fanatical Inſanity*. See above Vol. I. p. 285, &c. The caſe of JOHN ENGELBRECHT affords an extraordinary example of the moſt diſtreſſing religious deſpondency of many years ſtanding, happily terminating in very permanent religious joy, with ſymptoms of a pleaſing maniacal Inſanity.

* Of this examples are not uncommon. We meet with a remarkable

Vanity, or pride, is an overweening opinion of the greatneſs, and value, of our own conſequence, perſonal endowments, abilities, attainments,

markable one in LUTHER, the great champion of the Reformation; to whom, or to whoſe cauſe, I am far from here intending the ſmalleſt reflection; having the greateſt veneration for both: but candour muſt acknowledge that he was fitted for a reformer, by poſſeſſing much warmth and vehemence of temper, and no ſmall portion of enthuſiaſm; and hiſtory, and even his own writings, inform us, that he was ſometimes afflicted with religious melancholy.—It is no wonder, therefore, that men ſo much his inferiors, both in learning, and abilities, as LUDOWICK MUGGLETON; a great pretender to inward light, which was to anſwer every purpoſe of religion; and his friend and aſſociate GEORGE FOX; ſhould, as we are told by LESLIE, be ſo deeply ſeized with deſpair, that, like the poſſeſſed man in the goſpel, they forſook all human converſation, and retired into deſerts and ſolitary places, where they ſpent whole days and nights alone *(a)*

Raſhneſs, vehemence, and obſtinacy, were the acknowledged failings of LUTHER. Such diſpoſitions imply exceſs of paſſion, and ſome defect of judgment; and have a tendency to produce, in minds religiouſly diſpoſed, religious enthuſiaſm, which though it does not appear that he ever experienced in any ſuch degree, as to diſgrace his cauſe, pervert his conduct, or produce fanaticiſm; yet the paſſage in his laſt will, quoted by the elegant Dr. ROBERTSON, *(b)* at the ſame time that it diſcovers an extraordinary

(a) LESLIE's *Snake in the Graſs*, Edit. 1698. p. 331. See alſo FOX's *Journal*. GRANGER's *Biogr. Hiſt. Engl.* Vol. IV. p. 210.

(b) *Hiſt. of Charles* Vth. Vol. III. p. 339.

attainments, or conduct; or of ſome other imaginary excellency which we fancy we poſſeſs; and which we ſuppoſe that others hold, or

ordinary elation of mind, betrays a near approach to the intoxication of enthuſiaſm.

But however we may think it doubtful whether he was ever much affected with religious enthuſiaſm, it is very certain that he was not always free from religious melancholy; which ſeems, ſometimes, ſo far to have impoſed upon his imagination as to have produced even *ideal Inſanity*.—Of theſe aſſertions it may be proper to bring ſome proofs.

In his retreat, in the caſtle of Wartenburg, in 1521 and 2, he was troubled with exceſſive coſtiveneſs; and with temptations of the devil, *qui etiam ſtrepitu ei moleſtus fuit*, "who even made a noiſe to torment him;" and was cured by exerciſe, and medicines ſent him by SPALATINUS. *(c)*

In the beginning of the year 1527—"he endured not only a corporal malady, but alſo a ſpiritual temptation, which he called a *buffeting of Satan*. It ſeemed to him, that ſwelling ſurges of the ſea in a tempeſt did ſound aloud at his left ear, and againſt the left ſide of his head: yet not within but without his head, and that ſo violently, that die he muſt except they preſently grew calm, &c" *(d)*

With theſe buffetings, and temptations, he was frequently viſited;

(c) MELCHIOR. ADAMI *Vit. Germanor. Theologor.* in vita LUTHERI. p. 122.——HAYNE'S *Life of Dr.* MARTIN LUTHER. p. 43.

(d) HAYNE'S *Life of* LUTHER. p. 69.—ADAMI *Vit.* LUTHER. p. 134.

or ought to hold, in as high eſtimation as we do ourſelves. The vain man, therefore, expects that others ſhould look up with admiration

ſited; he called them conflicts between him and Satan; the terrors he experienced he called the *devil's traps*, from which God would deliver him; and ſaid that *the devil and all his angels vexed him.* (c)

MELCHIOR ADAM (f) informs us that he was teazed by the devil with many *ſpiritual temptations*, *buffetings*, and *frightful ſpectres*: that, when he lived at Coburg, burning torches ſometimes appeared to him, which ſo terrified him as almoſt to make him faint away; from which he was relieved by medicines, and by reading the epiſtle to the Galatians; and that he uſed, on theſe occaſions, to call to thoſe about him to ſing pſalms with him in ſpite of the devil: and that the devil once appeared to him in his own garden, in the form of a black boar.

And that theſe *buffetings*, *ſpectres*, *terrors*, and *temptations*, as he called them, were no other than the effects of religious melancholy, to the production of which his peculiar temperament of mind, the ignorance and ſuperſtitious credulity of the times in which he lived, his inceſſant application to his ſtudies, and ſedentary life, all probably contributed, is pretty evident from the attendant circumſtances: and the manner in which he ſpeaks of theſe temptations is perfectly analogous with what he himſelf ſays of Inſanity.——"I think, ſays he, that all fools, and ſuch as have not the uſe of reaſon, are vexed or led aſide by Satan: not that they are therefore condemned, but becauſe Satan doth diverſly tempt men, ſome grievouſly, ſome eaſily; ſome a longer,

(c) HAYNE. p. 70. 77. 125. 138.
(f) P. 162.

ration to thoſe uncommon qualities in which he ſo much exceeds the reſt of mankind; or, at leaſt, all thoſe with whom while he compares

ger, ſome a ſhorter time. And whereas phyſicians attribute much to natural means ſometimes: this cometh to paſs, becauſe they know not how great the power and ſtrength of the devils are." *(g)*

All this ſeems abundantly to prove that LUTHER was ſometimes afflicted with religious melancholy in a very high degree; and is farther confirmed by his own account of his diſputations, and other intercourſes, with the devil: for which, as I have no opportunity of conſulting the originals myſelf, I am obliged to truſt to the fidelity of the extracts which are to be met with in BAYLE's *Hiſtorical and Critical Dictionary*, under the article LUTHER.

LUTHER, ſays he, owns, in ſeveral places of his works, that he knows very well the devil's way of diſputing: and that it had coſt him many a bitter night: *multas noctes mihi ſatis amarulentas & acerbas reddere ille novit.*——"The devil, ſays he, knows how to invent, and to urge his arguments with great force. He alſo ſpeaks in a deep and loud tone of voice. Nor are theſe diſputes carried on in a long courſe of various argumentation; but the queſtion is put, and the anſwer given, in a moment. I am ſenſible, and have ſufficiently experienced, how it ſometimes happens that perſons are found dead in their beds in a morning. He is not only able to kill, or ſtrangle, the body; but knows how ſo to urge, and cloſe in, the ſoul with his diſputations, that it is obliged to quit the body in an inſtant; a ſtate into which he had nearly reduced me more than once.——Indeed I believed that EMPSERUS, OECOLAMPADIUS, and others who have

(g) HAYNE. p. 129.—ADAM. p. 164.

compares himſelf he feels the emotions of this childiſh, deluſive, and ridiculous affection.

As a pleaſing, and not violent emotion, it would rather promote health than be injurious to it, did it not too often render us liable to chagrin, and mortification, from the diſappointment of our expectations of that admiration, and applauſe, which we fancy we merit; but which, however we may deſerve, the world chooſes to withhold while we

have died in the ſame manner, met with their ſudden deaths by being pierced through with theſe fiery darts and ſpears of Satan. For no mortal can endure, and withſtand them, without the peculiar aſſiſtance, and power, of God:—and his diſputations are very brief, and he makes no long delay, if he happens to meet a man at home by himſelf."——To be ſhort, he ſays, that "the *ſacramentarians* do not underſtand the holy ſcriptures, becauſe the true opponent, the devil, is no opponent of theirs; and that we are no better than mere ſpeculative theologians, till we have had ſuch an oppoſing devil clinging to our necks.—— That, for his own part, he thoroughly knew the devil, and had eat more than one buſhel of ſalt with him:—That the devil had much more frequently, and cloſely lain in bed, and ſlept with him, than his wife Catherine:—That he was wont to walk about with him in his bedchamber:—and that he had had him hanging about his neck."——For the originals; and the authorities, of all this, I refer the reader to BAYLE himſelf.

we ſo arrogantly demand it; and were it not, when moſt ſucceſsful, and moſt gratified, apt to degenerate into Inſanity, by leading the mind ſo inceſſantly to dwell on the ſingle ſubject of our own excellencies, as to render it, by means of ſuch a perpetual recurrence of the ſame erroneous, or ill governed imaginations, at firſt *notionally*, and at length, by inducing an uniform and unremitting activity of the brain, *ideally* delirious. Of Inſanity apparently from this ſource, I have ſometimes ſeen examples. That of NEBUCHADNEZZAR king of Babylon ſeems to have originated from the ſame cauſe: and ALEXANDER the great was, I am perſuaded, intoxicated to a degree of actual madneſs, by the folly of exceſſive vanity, as well as by that of exceſſive drinking.

Malevolence is defined by CICERO* to be "a pleaſure ariſing from the ſufferings of o-
"thers,

* *Tuſculan. Diſputation.* Lib. IV. cap. 10.

"thers, when they are unaccompanied with "any advantage to ourſelves."

THIS paſſion *may have for its object certain individuals only*; and may derive its origin from the perſonal reſentment of ſome real, or ſuppoſed, injury, or affront. And in this caſe it nearly reſembles *revenge*; from which it chiefly differs in this, that revenge is more violent; and, ariſing from that vehement deſire of puniſhing an offender which is called anger, *deliberately* inflicts the puniſhment, which the momentary paſſion of anger would impel us to inflict *ſuddenly*; and which, if delayed till it has had time to ſubſide, it would not inflict at all; is itſelf, directly or indirectly, the author of the puniſhment; and is in ſhort, a fixed, deliberate, and durable anger: whereas malevolence, though ariſing from a permanent anger, and reſembling revenge, is leſs violent than either; does not imply a deſire of inflicting puniſhment; much leſs does it actually inflict any itſelf; but, being the reverſe of benevolence, which

which rejoices in the *good*, it unkindly, and maliciouſly, rejoices in the *harm*, of others.

OR malevolence *may extend to certain bodies, or ſocieties, of men.* When it appears in this form, it may have ariſen from early prejudices, have been indulged from ſelfiſh and intereſted views, and have been fomented by contention and animoſity, whether of the tongue, the pen, or the ſword; and diſplays itſelf in the hatred of a party, of a religious ſect, or of a rival nation: and in all theſe ways has often led on to every ſpecies of injuſtice, and inhumanity. Indeed the man who can once bring himſelf to feel pleaſure in the pain of another, beyond the inſtantaneous impulſe of a momentary paſſion, and exceeding the degree neceſſary for the correction of the fault, and the production of conviction and amendment, is of too ſavage a temper for civilized ſociety, and might eaſily be driven along, by the cruel malignity of ferocious paſſions, to any extreme of violence and barbarity.

NOR

NOR do a party, a ſect, or a nation, ſet bounds to malevolence. It ſometimes ſpreads unlimited, and comprehends the whole human race; and is then termed miſanthropy; a pining, and gloomy paſſion, or habit of mind, which leads us to receive an uncomfortable ſort of pleaſure from thinking ill of, railing at, recounting the faults, and rejoicing over the miſeries of mankind. It may receive its origin from private injuries done to us, from great diſappointments, or heavy misfortunes, brought, or ſuppoſed to be brought upon us, by the ſelfiſhneſs, treachery, or malevolence of others; and will be foſtered by pondering much upon the injuſtice, and ingratitude, we have experienced from our fellow creatures; and, eſpecially, if to this be added a firm perſuaſion that the human heart is entirely ſelfiſh, and ungenerous.

THIS unfriendly paſſion, though placed among thoſe ariſing from a feeling of pleaſure; from the circumſtance of the gloomy and

and malicious ſatisfaction, which conſtitutes its eſſential character; is yet to thoſe who are ſo unfortunate, and ſo ſunk in the ſcale of moral depravity, as to be much ſubject to its influence, a ſource of infinitely more pain than pleaſure; not only as being a ſelfiſh paſſion, but as it is uſually followed by a long train of other paſſions, no leſs ſelfiſh, malicious, gloomy, and painful; as envy, jealouſy, ſuſpicion, diſappointment, hatred, revenge, anxiety, ſhame, grief, fear, terror, remorſe, and the like malignant and tormenting affections. It is plain, therefore, that habitual malevolence muſt be a ready inlet to the various diſtreſſes of the hypochondriacal diſorder, and Inſanity.

DESIRE is an earneſt volition of the acquiſition of ſome ſuppoſed *abſent good*, or of the preſervation of ſome *preſent one*: or, which amounts to the ſame thing, of the abſence of ſome *preſent evil*, or the avoidance of ſome poſſible *future one*: —— or, in other words, it is an opinion that the poſſeſſion of ſome

ſome certain attainable, or poſſible, good, would contribute to our happineſs; accompanied with a wiſh to be poſſeſſed of it, which is uſually, more or leſs painful, in proportion to its intenſeneſs, and to the proſpect of its gratification.

OF this affection there are various modifications, which, according to the nature of its various objects, relations, and combinations, take various names: beſides a conſiderable number of natural deſires, which, not having acquired diſtinct appellations, paſs under the general one: and which produce no very conſpicuous commotion in the body, but ſo far as they give riſe to the other paſſions of joy, diſtreſs, anxiety, and fear; ſuch as the deſire of life, health, eaſe, pleaſure, reputation, or the good opinion of mankind, and the like, with the avoidance of their contraries, death, diſeaſe, pain, diſapprobation, and infamy.

THERE

THERE are, likewiſe, certain deſires, or wants, which may be termed unnatural, and which I conceive to come under CICERO's deſcription of *indigentia*, which he defines *libido inexplebilis*, "inſatiable deſire;" and to comprehend a great variety of artificial wants;—— as the deſire of *money*, the deſire of *glory* or love of fame, the deſire of *power*, a paſſion for *dreſs*, *gallantry*, *gaming*, *building*, *gardening*, or the like; any one of which, by habit and indulgence, may take ſuch deep root in the mind as to become its ruling paſſion, and conſtitute the moral diſeaſe of *avarice*, *ambition*, *oſtentation*, a nice ſenſe of *honour* falſely ſo called, *affectation* of every kind, the *love of pleaſure* and *diſſipation*, and an almoſt infinite variety of nameleſs deviations from the true paths of virtue and happineſs. *

I call them unnatural deſires, becauſe they exiſt only in an advanced, and artificial ſtate of

* Vide HORATII *Epiſt.* XVIII. Lib. I. verſ. 96, &c.

of ſociety; and becauſe ſome of them owe their birth to the peculiar manners, faſhions, and luxuries, of the times, and countries, in which they prevail.

IT is too obvious to need diſcuſſion, and too notorious, to need any proof, how frequently, and in what way, many of theſe artificial wants terminate in Inſanity.

Hope, which is a perſuaſion of the mind that we ſhall obtain the good we wiſh for, is an affection in which the pain of deſire is almoſt annihilated by the pleaſing proſpect of approaching fruition; and the raptures of joy, which might accompany actual fruition, are quieted, and kept under, by the contrary emotions of ſtill remaining deſire, and of a ſlight though ſometimes ſcarcely perceptible ſenſe, of the poſſibility of diſappointment: and is uſually of ſo gentle a nature, ſo little inimical to virtue, and ſo friendly to health, as ſcarcely to retain the qualities and character, or to deſerve the name, of a paſſion; or only to merit

merit that appellation by retaining the good ones; for which reaſon, I ſuppoſe CICERO has omitted it.

WHAT is here ſaid, of the hope of obtaining a deſired good, is equally applicable to that of avoiding an approaching, or eſcaping from a preſent evil. The abſence of evil being to be conſidered, in this checquered ſtate of good and ill, as the poſſeſſion of real good; and the avoidance of, or liberation from, actual evil, as equivalent to the acquiſition of no inconſiderable degree of poſitive good.

HUMAN happineſs, in its moſt perfect ſtate, ſeems to be made up of a calm *ſatisfaction* in the enjoyment of *preſent good*, and the pleaſing *hope* that it will continue, or will be ſucceeded by ſome other good, no leſs grateful to our natures, and agreeable to our wiſhes.—*Satisfaction*, therefore, and *hope*, the gentleſt, and moſt harmonious, affections of the mind, always accompany, and are accompanied

companied by, the moſt harmonious, gentle, and ſalutary movements of the living, and active powers of the body. As they are attended with no painful emotions, ſo they are productive of no injurious effects, either on the mind, or body; and are as unconnected with vice, as they are the enemies of mental ſuffering, and bodily diſeaſe.

I here ſpeak of a pure, and rational hope, untainted with any other paſſion, and worthy of our nature. But it is proper to add, that hope may be combined with other paſſions, and may have for its object real evil, under the ſpecious appearance of good. I may hope to obtain the gratification of ſome irregular appetite, or diſorderly paſſion; or to acquire ſome fancied good which is in reality an evil. In theſe caſes, hope is but an under paſſion, a mere adjunct, accident, or modification; but partakes not of the evil of the paſſion with which it is united. Hope, as hope, is ſtill pleaſing, ſtill ſalutary; and even here diſplays

diſplays the beneficence of its nature: for, though it cannot overcome, it diminiſhes, the pernicious effects of the painful and turbulent paſſions, with which it is combined.

In like manner, hope may be connected with ſome ſpecies of Inſanity, as a ſymptom, but never as a cauſe. It may exiſt in the chearful kinds of this diſorder, without producing either bad effects, or good ones; without promoting its increaſe, or contributing to its amendment; but it is of ſo oppoſite a nature to thoſe kinds of Inſanity which are characterized by gloomineſs, and melancholy, that whenever it can be excited in caſes of this ſort, it affords an excellent ſign of amendment; and whatever means are capable of exciting it, will have a powerful tendency to facilitate their cure.

Anger is the reſentment which we feel of an injury done, or intended, to ourſelves, or to others, accompanied with a deſire to puniſh the tranſgreſſor. Its immediate effect is

to

to increaſe the muſcular, and vaſcular tones of the body; to augment ſtrength; and to accelerate the circulation of the blood through the whole ſyſtem of veſſels, both great and ſmall; to increaſe the quantity of blood ſent to the head, and, when vehement, to produce in the arteries a degree of inflammatory tone; in ſhort, to excite the moſt ſudden, and violent, exertions of the nervous power, over the veſſels, and muſcles; and to leave, when it ſubſides, in conſequence of ſuch uncommon and tumultuous efforts, diminution of tones, and eſpecially of the muſcular, debility, languor, trembling, palpitation, and ſometimes even fainting.

HENCE it is obvious why it is accompanied with a general increaſe of warmth, and of inſenſible perſpiration; and eſpecially with uncommon flushing of the face, and heat and throbbing in the head; why it exhibits vaſt and aſtoniſhing efforts of ſtrength; why the hurry of great and unuſual exertions

ons ſhould occaſion ſtammering; and why the violent agitation of mind with which it is attended, ſhould produce reſtleſsneſs, and inquietude, of body. From the ſudden change in the circulation of the blood in the large veſſels, it is eaſy to account for the palpitations which are ſometimes felt at the heart: and from the acceleration of the blood's motion in the ſmall ones,* we can eaſily conceive why anger ſhould give riſe to hæmorrhages, inflammations, fevers, epilepſies, apoplexies, and Inſanity; and why it ſhould, occaſionally excite vomiting, purging, and in ſome caſes, by producing a ſpaſm on the excretory ducts

* "Ad incitatum autem ſanguinis motum pertinent ſanguinis ſubtiliores effuſiones, maculæ ſanguineæ (z) macula ſubito fuſca in pede nata, hinc (a) gangræna (b) maculæ & vibices lethales, & nigredo a pede ad genu (c). Cum iſto effectu comparo rubedinem in gallorum calecuticorum collo ex ira natum, ipſa denique chamæleontis phænomena. Ea enim, &c. &c." HALLERI *Element. Phyſiolog.* Lib. XVII. Sect. II. § VI. Tom. V. p. 587.

(z) PETZOLD. *Obſ.* 20. (a) ALBERT. *Med. Leg.* Tom. III. c. 134. (b) IDEM. ibid. QUESNAI *de la Gangrene.* p. 330. (c) *Gal. di Minerv.* VI. p. 132.

ducts of the bile, even a jaundice; and, by a like ſudden ſpaſm in the inteſtines, the iliac paſſion. —Hence we ſee how anger may give motion to a paralytic limb; cure the dumb; drive away the paroxyſms of the gout and rheumatiſm; relieve ſome ſorts of fevers; and protract the hour of death itſelf, keeping up for a while the vital flame by its ſtrong and animated excitement of the nervous power.

SINCE anger is productive of ſuch extraordinary commotions in the body, and is itſelf ſo much like Inſanity, as to be very commonly ſtiled, after HORACE,¶ and ſome other of the antients, "a ſhort madneſs," we

¶ "Ira *furor brevis* eſt, animum rege, qui niſi paret,
Imperat: hunc frenis, hunc tu compeſce catena."
Epiſt. II. Lib. I. verſ. 62.

Anger's a ſhorter madneſs *of the mind*;
Subdue the tyrant, and in fetters bind.
FRANCIS.

Vide etiam CICERONIS *Tuſculan. Diſputat.* Lib. IV. cap. 36.

we cannot wonder that it ſhould ſometimes terminate, immediately, in actual Infanity. Nor will it be difficult to conceive how a paſſion which occaſions ſo ſudden, and ſo conſiderable a change in the circulation of the blood in the head; which is ſo uſually ſucceeded by the contrary emotions of ſorrow, and repentance; and which not only is the legitimate offspring of a degree of mental imbecillity, but, by injuring the brain, tends ſtill farther to weaken the faculties of the mind, and by rendering both mind and body, if long and habitually indulged, too irritable, impairs the judgment, and expoſes to the frequent attacks of the moſt hurtful paſſions; ſhould in the courſe of time, other cauſes conſpiring, occaſion almoſt every ſpecies of Infanity.

THOUGH anger, however, be a pernicious one, it is often the paſſion of generous minds; but *hatred*, which may be defined an inveterate anger, and is a rooted reſentment

ment againſt ſome one obnoxious perſon, or againſt ſome religious ſect, ſome party, ſome ſociety, or claſs of people, againſt one of the ſexes, or againſt mankind, is always a mark of a weak mind; and, where it is not a ſymptom of actual Inſanity, as it frequently is, is the certain ſign of a baſe, and corrupted heart: and is always of ſo gloomy, as well as of ſo malevolent, a nature, as when by indulgence it has inſinuated itſelf into the very temper and conſtitution of the mind, readily to extend itſelf to particular bodies of people, or to mankind; and inſenſibly to degenerate into a moroſe kind of melancholy, whoſe object may indeed be various, but whoſe effects muſt ever be gloomy, painful, and tormenting.

Love is a paſſion of a very different nature, and of an oppoſite tendency. When extended to mankind in general, it is called *benevolence*; when confined to an individual, with a paſſionate warmth of attachment, it is called *friendſhip*; or, if that individual be of the other

other ſex, and it have a view to the union of the two, it becomes a moſt tender and intereſting attachment, which has univerſally acquired the almoſt excluſive title to the appellation of *love*. ‡

LOVE between the ſexes, when it is reciprocal, and uncontaminated with appetite, conſiſting in the moſt exalted feelings of the tendereſt friendſhip,‖ without having yet excited

‡ See a beautiful paſſage from SPENCER, containing a compariſon between natural affection, love, and friendſhip, in the SPECTATOR. N° 490. Vol. VII. p. 81.

‖ "Stoici vero & ſapientem amaturum eſſe dicunt; & amorem ipſum, conatum amicitiæ faciendæ ex pulchritudinis ſpecie, definiunt. Qui ſi quis eſt in rerum natura ſine ſollicitudine, ſine deſiderio, ſine cura, ſine ſuſpirio; ſit ſane: vacat enim libidine:——ſin autem eſt aliquis amor, ut eſt certe, qui nihil abſit aut non multum ab Inſania, &c."——CICERON. *Tuſculan. Diſputat.* Lib. IV. cap. 34.

"*But the ſtoics allow that a wiſe man may be in love: and define love itſelf to be a deſire of uniting in friendſhip, excited by perſonal beauty. And, indeed, if there be ſuch a thing in nature as love without ſolicitude, without the pain of abſence, without care, without ſighing; ſuch a love may be allowed; as being free from all deſire:——but if there be ſuch a ſort of love, which there undoubtedly is, as differs very little, if at all, from Inſanity, &c.*"

excited a deſire, or even a thought, of any ſenſual gratification, is the ſweeteſt, gentleſt, and moſt amiable of the paſſions; and produces exactly the ſame bodily effects as temperate joy; promoting health and chearfulneſs, invigorating the body, improving the temper, ſofrening the manners, inſpiring courage, and ſharpening and animating every faculty of the mind:——and even when combined with appetite, an union to which the pureſt love between the ſexes has, in certain circumſtances, a neceſſary tendency, it has, when indulged with moderation, the ſame ſalutary effects, perhaps in a greater degree; beſides others, no leſs beneficial, which are peculiar to itſelf;——and, indeed, I know of no one ill conſequence which can proceed from mutual, temperate, and lawful love.

BUT from an immoderate indulgence of the appetite connected with this delightful affection, the very worſt conſequences too often enſue: and, though the unſuſpected, it has frequently, I believe been the real ſource of

of Infanity, when it has been erroneouſly attributed to ſome other cauſe, or when no probable cauſe could be aſſigned.

INTEMPERANCE of this ſort, not only exhauſts the body, but depraves and enfeebles the mind; and exchanges health, ſtrength, eaſe, and chearfulneſs, for diſeaſe, languor, pain, and unſurmountable dejection, which, with the aſſiſtance of ſome accidental occaſional cauſe, and ſometimes even without it, too readily terminates in Inſanity.

BUT this diſeaſe moſt frequently ariſes from the other paſſions, with which love is often, unhappily, tormented; as ſolicitude, fear, ſuſpicion, jealouſy, joy, grief, hope, doubt, diſappointment, deſpair; † —— and from

† "Sic igitur adfecto hæc adhibenda curatio eſt, ut & illud quod cupiat oſtendat quam leve, quam contemnendum, quam nihili ſit omnino; quam facile vel aliunde vel alio modo perfici, vel omnino negligi poſſit: abducendus etiam eſt nonnunquam ad alia; ſtudia, ſollicitudines, curas, negotia: loci denique mutatione,

from that unremitting attention of mind with which the lover's thoughts are for ever employed

tione, tamquam ægroti non convaleſcentes, ſæpe curandus eſt: etiam novo quidam amore veterem amorem, tamquam clavo clavum, ejiciendum putant: maxume autem admonendus, quantus ſit furor amoris. Omnibus enim ex animi perturbationibus eſt profecto nulla vehementior: ut, ſi jam ipſa illa accuſare nolis, ſtupra dico & corruptelas & adulteria, inceſta denique, quorum omnium accuſabilis eſt turpitudo: ſed ut hæc omittas, perturbatio ipſa mentis in amore fœda per ſe eſt: nam ut illa præteream, quæ ſunt furoris; hæc ipſa per ſeſe quam habent levitatem, quæ videntur eſſe mediocria?

——— injuriæ,
Suſpiciones, inimicitiæ, induciæ,
Bellum, pax rurſum: incerta hæc ſi tu poſtules
Ratione certa facere; nihilo plus agas,
Quam ſi des operam, ut cum ratione inſanias."

——Cic. *Tuſc. Diſp.* lib. cap. 35.

"*A perſon thus affected ſhould be cured in this way;—he ſhould be convinced how light, how deſpicable, how worthleſs a thing, is the object of his deſire: how eaſily it may be obtained from ſome other quarter, or in ſome other way, or may be diſregarded altogether: he ſhould ſometimes alſo be diverted to other things; to ſtudy, buſtle, care, or buſineſs: and, laſtly, the cure ſhould frequently be attempted, as in the caſes of ſick perſons whoſe recovery ſeems to make no advances, by change of place: ſome are even of opinion that as one wedge is driven out by another, ſo ſhould an inveterate paſſion be expelled by a new one: but, above all, he ſhould be made ſenſible how much of madneſs there is in love. For of all the paſſions there is no one more violent: ſo that, to ſay nothing of rapes, ſeductions, adulteries, or even of inceſts, all of which are chargeable with moſt criminal turpitude: but, to ſay nothing*

ployed about the beloved object of his unalterable affection; which will ſcarcely permit him to eat, drink, or ſleep, and ſometimes baniſhes ſleep entirely from his eyes; which will induce him, when in the agonies of anxiety, fear, ſuſpicion, or of any of the other baneful paſſions attendant upon love, to neglect buſineſs, and all the duties of his ſtation, and of ſocial life; to be ſlovenly in his dreſs, and even inattentive to cleanlineſs; will torment him with doubt, diſſolve him with grief, make him frantic with jealouſy, or freeze him with the horrors of deſpair:——or, when leſs violent, will lead him to ſome gloomy retirement to meditate in ſilence,——to walk with folded arms, and drooping head,——to be

nothing of theſe, the mere diſorder of mind which accompanies love is of itſelf diſgraceful: for, to paſs over ſuch of its exceſſes as partake of Inſanity; how much is there of folly even in what may be eſteemed its moderate irregularities? Its——

——— Injuries,
Suſpicions, enmities, ſhort reconcilements,
War and then peace again: if ſuch uncertainties
By reaſon you would fix, you might as well
Wiſh to be mad, and yet retain your reaſon."

be reſtleſs, and agitated, in motion, geſture, and countenance,——to be abſent to every thing external,——and, in ſhort, day and night to think, to dream, of nothing elſe but the dear, intereſting image, graces, and conduct, of the object of his unfortunate paſſion. §

LOVE, in this ſtate, is by PAULUS ÆGINETA* very properly conſidered as a diſordered

§ Love, and its effects, have been favourite ſubjects with poets, of every age, and nation. THOMSON, in his *Seaſons*, has given ſome beautiful ſketches of it, in its various forms. The following lines, in his *ſpring*, afford an exact picture of ſome of the pernicious effects of violent, and ill regulated, love:——

"But abſent, what fantaſtic woes, arous'd,
Rage in each thought, by reſtleſs muſing fed,
Chill the warm cheek, and blaſt the bloom of life?
Neglected fortune flies; and ſliding ſwift,
Prone into ruin fall his ſcorn'd affairs.
'Tis naught but gloom around; the darken'd ſun
Loſes his light; the roſy-boſom'd ſpring
To weeping fancy pines; and yon' bright arch,
Contracted, bends into a duſky vault.
All nature fades extinct; and ſhe alone
Heard, felt, and ſeen, poſſeſſes every thought,
Fills every ſenſe, and pants in every vein. &c. &c. &c."
Verſe 1001, &c.

* *De Re Medica.* Lib. III. cap. 17.

ordered affection of the brain: and, indeed, it not only too often exhibits every ſymptom of *notional Inſanity*; but frequently terminates in the moſt deplorable extremes of every ſpecies of the *ideal*.

Ambition, or the earneſt deſire of power, and preheminence, may, when exceſſive, diſpoſe the mind to Inſanity,—by leading it to dwell too intenſely, and inceſſantly, on the ſole object of its purſuit, and aſpiration;—by the injurious tendency of any violent and predominant paſſion which may accompany it, as envy, jealouſy, anger, reſentment, malice, hatred, revenge, diſappointment, indignation, grief, or deſpair;—by the perpetual agitation, and ſudden extremes, of oppoſite and contending paſſions; of hope and fear, elevation and depreſſion, chearfulneſs and anxiety, fruition and deprivation, joy and diſtreſs, expectation and diſappointment;—by fatigue of body, and mind, from perpetual, intenſe, and anxious thinking;—and by want of the due relaxation, and

and refreſhment of ſleep; which will too often be greatly interrupted, and ſometimes entirely baniſhed, by much and deep thinking, by the reſtleſs activity of violent, and by the ferment and agitation of contending, paſſions.

A violent, and unreaſonable affection for money, as a thing of inherent, and intrinſic value, without any immediate reſpect to its uſe, any proper, and proportionate regard to the advantages, and comforts, which we may derive from it ourſelves, or be enabled by poſſeſſing it to confer upon others, is denominated *avarice*: a moſt ſordid, ſelfiſh, and ungenerous paſſion, which, while it withholds, and ſtifles, our natural ſympathy, and pity, for our fellow creatuers, never fails to puniſh with the pains of anxiety and care, and with a total privation of the fineſt pleaſures of our nature, the unhappy wretch who is ſo unfortunate as to ſuffer himſelf to be enſlaved by an attachment ſo little alluring, ſo perfectly irrational, ſo ſubverſive of our beſt moral feelings, and ſo degrading to humanity.

THAT

THAT ſuch a paſſion ſhould exiſt ſeems as wonderful, as it is common. Nor, indeed, could it ever take poſſeſſion of the mind, but by inſenſible approaches. It ſteals upon us by degrees, under the ſemblance of proper economy, and a prudent proviſion for future enjoyment, till familiarity makes us inſenſible of its deformity; and, by an abſurd aſſociation, we begin to eſteem on its own account, what we at firſt valued merely for the ſake of the conveniences which it was capable of procuring us; and to transfer that affection to the means only, which ought to have been placed entirely, and without deviation, upon the end.

WHAT powerfully aſſiſts in bringing about this revolution, is the fear of poverty; which is too ready to take the place of an habitual care to ſave money, and of an anxious ſolicitude to provide for futurity; and which ſo naturally ſprings up, and ſtrikes ſuch deep root, in the mind of a covetous man, as ſcarcely ever to be eradicated where it has once

once fixed; and often, as I have experienced in a number of inſtances, to terminate in that variety of *pathetic Inſanity* which I have denominated *avaricious*, and of which the principal, and characteriſtic ſymptom, is the groundleſs dread of poverty in the midſt of affluence.

FEAR, anxiety, inſatiable deſire, and unceaſing care, are the never failing tormentors of the man of avarice: nor are they his only tormentors: he ſometimes voluntarily afflicts himſelf with the needleſs ſufferings of poor, and ſcanty diet; of mean, and inſufficient, cloathing; of the want of every comfort of life; and the certain hardſhips of a rigorous, artificial, poverty, amidſt the imaginary, and improbable, apprehenſion of a real one; and is occaſionally agitated with ſuſpicion, anger, hatred, diſtreſs, grief, deſpair, or whatever other paſſion may poſſibly accompany the ſolicitude of collecting, and hoarding, the dread of loſing, and the ſorrow for the actual loſs, of the primary, and almoſt

moſt only object, of all his cares, and all his wiſhes.

If to this be added the pain of the ſelfiſh paſſions; the privation of the chearing, animating, and ſalutary influence, of the ſocial ones; the horrors of a life of almoſt perpetual ſolitude, which is often the lot of the covetous man; the moping gloomineſs of ſpirit, and uncomfortable void in the heart; that total want of an undeſcribable ſomething eſſential to human felicity, which muſt frequently be experienced by a being who neither loves, nor is beloved, who is intereſted in no ones happineſs, and is conſcious that no one can be intereſted in his own;—— a man of generous ſentiment, and keen ſenſibility, will be apt to wonder that ſuch a character as a miſer can exiſt; or, exiſting, can long retain his ſenſes: and even men of leſs delicate feelings will not be ſurpriſed that ſuch a paſſion, or moral depravity, as avarice, ſhould often terminate in Inſanity, which in its beſt condition, it ſo much reſembles.

How

How ſuch paſſions, and ſuch habits of life, as have been here attributed to this ſordid diſpoſition, may be productive of Inſanity in a variety of ways, it is eaſy to perceive from what has already been ſaid of the nature and operation of the paſſions, of poor diet, and of conſtant attention of the mind to one object; and will preſently be farther illuſtrated, in treating of the paſſions which yet remain to be conſidered.

DISTRESS is the affliction which we feel from the preſent preſſure of what we conceive to be an *evil*; ariſing from a perſuaſion of the mind that the evil which has befallen us is a ſufficient cauſe for ſuch affliction. The paſſions of this claſs have a great variety of names; as envy, pity, commiſeration, uneaſineſs, dejection, anguiſh, ſorrow, mourning, lamentation, grief, deſpair, and many others; of which ſeveral are nearly ſynonymous; ſome indicate paſſions which differ only in degree; and none produce any very

very conſiderable bodily effect which is not exemplified in envy, pity, grief, dejection, and deſpair.

Envy is that affection of the mind, by which we are diſtreſſed at the good fortune of another; either becauſe we ourſelves are in want of what he enjoys; — or becauſe, he being poſſeſſed of a deſirable object as well as ourſelves, our ungenerous hearts are deprived of an invidious, and inſulting ſuperiority; — or becauſe we cannot bear to ſee another happy, how remote ſoever his happineſs may be from interfering with our own; or the object of it from being an object of deſire to ourſelves.

THIS paſſion, in all its varieties, is of a moſt painful, and in ſome, of a moſt malignant nature; being uſually accompanied with anger, and hatred; — either in conſequence of an unjuſt aſſociation, as if they had actually injured us, who poſſeſs what we are ſo unhappy as to be unable to obtain, or what we

we wiſh to poſſeſs excluſively, and without a rival; —or in conſequence of ſome former injury which we yet reſent, and which leads us to view with a malicious indignation, the proſperity of a foe; —or becauſe the perſon envied has actually been either the intentional, or the innocent cauſe, of our own deprivation; —or from a temper, than which none can be more painful, or deteſtable, unfortunately ſo depraved by habitual envy, as to feel a malevolent enmity to whatever we ſee great, or good, or happy, or deſireable, in the character, or acquiſitions, or ſucceſſes, or other circumſtances, of our aſſociates, neighbours, or fellow citizens.

THE effects on the body of this malicious, and deſpicable paſſion, which excites a deſire of humbling thoſe whom we ſee equally, or more proſperous, and whom we imagine as happy, or happier, than ourſelves, are ſimilar to thoſe of grief, or dejection, hereafter to be deſcribed; but often animated,

and

and at the ſame time rendered more painful, by the violence of anger, the malevolence of hatred, or the fretful impatience of peeviſhneſs. As it is a moſt ſelfiſh, degenerate, and vitious paſſion, engrafted upon the generous, natural, and virtuous one of emulation; ſo it is moſt gloomy, and uncomfortable; and one of the moſt unprofitable, pernicious, and incurable, that can torment and corrode the human heart. An envious temper is deſtructive of the peace of mind, and injurious to the health, of its poſſeſſor; and a ſcourge to all within the reach of its baneful influence. †

As

† Its hateful effects cannot be better deſcribed, allowing for ſome little poetical heightening, and embelliſhment; if that may be called embelliſhment which is intended to render a picture more diſguſting; than in the words of OVID, in his deſcription of the viſit of Minerva to the cave of envy; where he tells us that,—

"Utque deam vidit formaque armiſque decoram;
Ingemuit: vultumque ima ad ſuſpiria duxit.
Pallor in ore ſedet: macies in corpore toto:
Nuſquam recta acies: livent rubigine dentes:
Pectora felle virent: lingua eſt ſuffuſa veneno.
Riſus abeſt; niſi quem viſi movere dolores.
Nec fruitur ſomno, vigilacibus excita curis:
Sed videt ingratos, intabeſcitque videndo,
Succeſſus hominum: carpitque & carpitur una:
Suppliciumque ſuum eſt ——————

——————&

As envy pines at the proſperity, and happineſs, ſo *pity* ſympathizes with, and commiſerates, the misfortunes, and miſeries, of others: eſpecially if they ſuffer undeſervedly, and without any guilt, or even fault, of their own; or if their ſufferings be much greater than the vices, or inadvertencies, which occaſioned them. For the idea of guilt weakens the ſympathy, and diminiſhes the pity,

which

———& tandem Tritonida conſpicit arcem,
Ignaviis, opibúſque, & teſta pace virentem:
Vixque tenet lacrymas; quia nil lacrymabile cernit."
Metamorphoſ. Lib. II. Verſ. 773, &c.

" *Soon as ſhe ſaw the goddeſs gay and bright,*
She fetch'd a groan at ſuch a chearful ſight.
Livid and meagre were her looks, her eye
In foul diſorted glances turn'd awry;
A hoard of gall her inward parts poſſeſs'd,
And ſpread a greenneſs o'er her canker'd breaſt;
Her teeth were brown with ruſt, and from her tongue,
In dangling drops, the ſtringy poiſon hung.
She never ſmiles but when the wretched weep,
Nor lulls her malice with a moment's ſleep,
Reſtleſs in ſpite; while watchful to deſtroy,
She pines and ſickens at another's joy;
Foe to herſelf, diſtreſſing and diſtreſs'd;
She bears her own tormentor in her breaſt.———
———*When Athens ſhe beheld, for arts renown'd,*
With peace made happy, and with plenty crown'd,
Scarce could the hideous fiend her tears forbear,
To find out nothing that deſerv'd a tear."

which we ſhould naturally feel for an innocent ſufferer. This paſſion habitually indulged, and meeting with too frequent exerciſe, as it may readily do when the objects, and occaſions of it, are induſtriouſly ſought for, and cultivated, ſoftens and enfeebles the mind, renders it unfit to bear with fortitude the ordinary occurrences of ſociety, occaſions a propenſity to picture human life in the darkeſt colours, to indulge impreſſions of gloomineſs, and dejection, and to prepare the way for the eaſy introduction of melancholy, and deſpondency: which would be greatly facilitated by the relaxation of all the tones, naturally reſulting from a continued courſe of ſuch an enervating employment of the mind: but, pity being, happily, a paſſion which has nothing of ſelf for its object, is rarely indulged to ſuch an exceſs, as to do any material injury, or lay the foundation for Inſanity. In truth, it is uſually indulged too little; and perhaps never to any unreaſonable degree, but where it meets with encouragement from a diſpoſition of mind too much

ſoftened

ſoftened by misfortunes, or too tender by temperament, and already prediſpoſed, and approaching, to Inſanity.

Grief is a violent, piercing, and overwhelming diſtreſs, uſually accompanied with tears, occaſioned by the recent privation of ſome real, or ſuppoſed, good, which we highly eſteemed; or by the recent infliction of ſome poſitive, or imaginary, evil, of conſiderable weight and magnitude.

GRIEF, on its firſt attack, if the cauſe be great, produces violent agitation both internal and external; in the mind, in the nervous and vaſcular ſyſtems, and in the bodily geſtures; with a profuſion of tears, and frequently with much lamentation:——but if it be ſudden, as well as great, its effects are exceedingly aggravated by ſurpriſe; and if terrible, with horror; under both which circumſtances, if not ſoon relieved by tears, it may end in Inſanity,¶ or in ſudden death:—— and

¶ "Mercator quidam opulentus, quadragenarius, temperamento

and in any of these cases it may produce palpitation of the heart, swooning, a difference of the pulse in the different arms, polypous concretions

mento melancholicus, ex magnæ pecuniæ jactura, ante aliquot menses facta, in magnum *mœrorem* & perpetuam solicitudinem, pene omnem somnum ipsi adimentem, incidit. Mensem hoc affectu tortus, solitudinem quærere, absurda cogitare, & præsentem egestatem, per quam sibi & familiæ suæ præ fame sit moriendum, imaginari cœpit. Huc accessit, quod, malo paulatim ingravescente, æternis inferni cruciatibus a deo se adjudicatum jam credat, monstrosisque spectris, quæ diabolos appellat, se frequenter infestari vigilans & somnians putet, quamvis ipsi mens officio suo in reliquis satis bene fungatur, nulla tamen ratione, hæc non vera, sed imaginaria esse, persuaderi a quoquam potest. Atque ideo, perpetuo angore se miserrime excrucians, vitam cum morte commutare exoptat. Ab alimentis & medicamentis est alienior "——JOH. BROEN. *Animadversion. Medic.* in HENR. REGII *Praxin. Medicam.* Lib. I. cap. 15. p. 137.

" *An opulent merchant, of forty years of age, and of a melancholy temperament, in consequence of the loss of a large sum of money a few months ago, was affected with such excessive* grief, *and perpetual anxiety, as almost entirely deprived him of sleep. After having been thus tormented for about a month, he began to be fond of solitude, to have absurd thoughts, and to imagine that he was reduced to absolute poverty, and that he and his family should perish for want. To add to his distress, his disorder having gradually increased, he fancies that he is condemned by God to eternal torment; and that he is perpetually haunted by monstrous spectres, which he calls devils, both sleeping and waking: and though the faculties of his mind perform their functions in every other respect very well, yet can he by no reasoning be persuaded that these are mere fancies, and not realities. Perpetually, therefore, tormenting himself with the most dreadful apprehensions, he wishes for death, and refuses both food and medicines.*".

concretions in the large veſſels, and ſometimes an immoderate flow of the menſtrual evacuation.

IN proportion to its violence, and duration, it weakens, and waſtes, the body. It immediately diminiſhes the *muſcular* and *vaſcular tones*, and, in the end, if long continued, impairs the *elaſtic*; and, with them, leſſens the irritability, and ſenſibility, of the whole nervous ſyſtem. Hence ariſe, a great and univerſal decay of muſcular ſtrength, a general languor, and debility, of all the vital actions, and, for the moſt part, a ſluggiſhneſs of the natural ones. Sometimes, indeed, and eſpecially in the fair ſex, it is accompanied with ſymptoms of diſeaſed irritability, with ſpaſmodic affections, and with an increaſe of the natural excretions; common attendants upon diminution of tones, obſtruction of inſenſible perſpiration, and weakneſs of digeſtion: but, upon the whole, that kind of *nervous* vaſcular tone is chiefly produced, in which the action of the heart and arteries, and

and of the ſecretory and excretory veſſels, is rather too *dull*, than too irritable.

THIS univerſal debility, beſides its conſtant, and neceſſary effects, may give occaſion to various other diſorders, both general and local; accordingly as the body may happen to be expoſed to the influence of their exciting cauſes, or as its different parts may be previouſly liable to be more or leſs affected by ſuch debility.

FROM this general view of the effects of grief on the body, it will appear obvious why the pulſe is uſually weak, ſmall, ſlow, and ſometimes intermitting; why perſpiration is checked; why the face becomes pale; the ſkin relaxed, and flabby; the whole body, and eſpecially the extremities, cold; the menſes ſuppreſſed; the habit edematous; and, after the firſt agonies of grief are abated, which are commonly accompanied with watchfulneſs,—and perpetual watchfulneſs, as has been already explained, is often ſpeedily

ly ſucceeded by maniacal and phrenitic Inſanity,*——why the ſleep is not unfrequently both oppreſſive, and diſturbed.

IF to the conſideration of the diminiſhed irritability, and ſenſibility, of the vaſcular ſyſtem, we add that of the conſtant attention of the mind to the object of its ſorrow, it will likewiſe be obvious why frequent ſighing becomes neceſſary to facilitate the paſſage of the blood through the lungs; why the appetite, and digeſtion, ſo remarkably ſuffer; and why the operation of purges, vomits, and even of opiates, may ſometimes be prevented, by this ſtupifying, enfeebling, and unremitting paſſion.

NOR will it be difficult to conceive why grief renders the body liable to all thoſe diſorders which are accompanied by weakneſs of the vital powers; and why it aggravates thoſe which are apt to derive violence, and danger,

* See the preceeding NOTE.

ger, from ſuch weakneſs: why it diſpoſes the body to imbibe, or to retain, infection; as the peſtilential, variolous, putrid, and others; which have been obſerved to attack more readily ſuch perſons as are much affected with fear, or grief; and why it increaſes the danger of infectious diſeaſes, when previouſly exiſting: why it does the ſame with regard to the ſcurvy, and eſpecially in long, anxious, and diſtreſsful voyages; and with regard to the malignant fevers, which are ſo prevalent, and which are known to make ſuch dreadful havoc, in towns that are beſieged: why it cauſes, or aggravates, the hyſteric diſeaſe, the ſtone, gout, ſcirrhous tumours, and cancers; makes wounds mortify; occaſions gutta ſerenas, palſies of every kind, and ſometimes lethargies, and apoplexies: why, aided by that obſtinate, and ſtatue-like inactivity, which ever accompanies it when exceſſive, it produces an impeded circulation, and congeſtion of blood, in the veins which terminate in the vena portarum; obſtructions, local inflammations, and abſceſſes,

ſceſſes, in all the abdominal viſcera; flatulencies and acidities in the firſt paſſages; diarrhæas, dropſies, and the like.

ALL theſe things conſidered, it will not appear wonderful, that, beſides ſudden death, or ſudden Inſanity, it ſhould alſo, in a variety of ways, be the cauſe of a lingering diſſolution; and that the perpetual gloom which accompanies it, and the conſtant attention of the mind to the ſame melancholy ideas, ſhould ultimately introduce either notional, or ideal, Inſanity; or, in their natural order, firſt the one, and then the other.

WHEN time, which abates the violence of grief, is unable to wear away the painful impreſſions which it has imprinted on the mind;¶ or to baniſh the regret, which it ſtill

¶ BOERHAAVE remarks, that the paſſions ſometimes ſo deeply impreſs the ideas of their object upon the mind, as to render them, for a long time, incapable of being obliterated: and tells us, that he himſelf had experienced that it was impoſſible, with his utmoſt endeavours, to efface the recollection of certain calamities; the ideas of which ſeldom left him even in his ſleep ——*Prælection. Academic. in proprias Inſtitutiones Rei Medicæ.* Tom. VII. p. 145.

ſtill acutely feels, of the infliction, or privation, which originally gave riſe to it, and which yet ſubſiſts; it is apt gradually to ſubſide into a fixed ſorrow, or *dejection of mind*; which may be defined to be an *habitual diſtreſs*, with which we are affected by the preſence of ſome permanent evil, and which diſpoſes us to view ſuch evil as incompatible with our happineſs, and, by giving to all our thoughts a melancholy caſt, inclines us to conſider whatever concerns ourſelves in the moſt gloomy, and uncomfortable light. It differs from grief only with reſpect to vehemence, and duration; and, while that may produce ſudden and violent effects, this works more ſlowly, though not leſs ſurely; gradually undermining, and deſtroying, the tone and vigour both of the body and mind; and, like grief, not only bringing on all the bodily diſeaſes ariſing from debility; but all thoſe mental ones, which are the natural offspring of a permanent, and diſtreſsful paſſion, which diſpoſes the mind inceſſantly to brood over its object,

object, and to cheriſh the gloom by which it is undone.

LONG continued grief, by weakening the mind, and brain, and rendering thoſe vibrations habitual which are connected with diſtreſsful, and melancholy feeling, may give riſe to an habitual depreſſion of ſpirits; which may be kept up, and perpetuated, by a variety of diſagreeable occurrences, unconnected with the original cauſe of grief, and without the excitement of thoſe particular ideas of diſtreſs in which it originally conſiſted; which occurrences, though not perfectly agreeable, would not of themſelves, and without the aid of that habitual foreneſs of mind, if I may ſo term it, have been ſufficient to excite any more than a ſlight, and momentary uneaſineſs; or perhaps would have excited none at all.

WHEN we have no hope of regaining a loſt good, or of being freed from an inflicted evil, we may then be ſaid to feel the emotion of *deſpair*; but, in a more ſtrict ſenſe, deſpair

pair may be defined to be — the extremity of diſtreſs, with agonizing horror, occaſioned by the ſenſe of ſome dreadful preſent evil, from which we have no hope of extricating ourſelves; or the apprehenſion of ſome equally, or more dreadful, future evil, which appears to be as inevitable, as altogether inſupportable, and affects us, by its ſuppoſed certainty, as if actually preſent.

THIS paſſion is always terrible, being made up of the very exceſs of grief, and dejection; but is peculiarly dreadful when, as is too often the caſe, it has religious diſtreſs for its object; and rends the heart with thoſe inexpreſſible horrors, which are experienced by ſuch miſerable mortals as imagine they have committed crimes which can never be forgiven by an offended deity, and for which they are inevitably doomed to everlaſting torment.

THIS religious deſpair may be thought to be improperly placed here, as having future miſery for its object, and ſeeming to be a ſpecies

cies of fear; under which ſome have thought proper to claſs it; and the reverſe of hope, from the abſence of which it derives its name! ——but, not to mention that CICERO, and the ſtoics, whom in this reſpect he implicitly follows, have very properly placed deſpair under the diſtreſſes; and there ſeems to be no juſt reaſon why religious deſpair ſhould be ſeparated from the other ſpecies of this moſt deplorable mental affection; it may be obſerved that, as the future evil, being ſuppoſed inevitable, operates on the mind as a preſent one; and as the crimes, ſuppoſed, or real, being irrevocable, and irremediable, are ever preſent to the deſpairing mind, as actually exiſting cauſes, of certain, and unavoidable effects; and as the anxiety of fear is loſt in the more dreadful certainty of deſpair; this paſſion may, with great propriety, be ranked among thoſe which have for their object *preſent evil*, and go under the general denomination of *diſtreſſes*.

WHEN deſpair ariſes from ſome very intereſting, and important, object, whether it be love, or religion, or whatever it be; but eſpecially love, or religion; it too often prompts its unhappy victims to ſuicide.‡

THE effects of deſpair on the body, are of the ſame nature with thoſe of *grief* and *dejection*; to which are ſometimes ſuper-added thoſe of *anger*, againſt the perſons, whether ourſelves or others, from whom we ſuppoſe our misfortune to have proceeded: and, whenever the object is very great, and important, as it always is in that degree of deſpair which is the proper ſubject of my preſent conſideration, of *horror* and *terror*, often from its ſuddenneſs, and always from its apprehended magnitude, and inevitability.

WHEN it is thus derived from the moſt important objects, as from the actual, or unavoidable

‡ Both theſe cauſes are judiciouſly exemplified in, and finely delineated, by SPENCER, in the *Fairy Queen*. Book I. Canto 9. Stanza XXVIII—LIII.

avoidable loſs of much loved friends, of fortune, or of liberty, or from the total privation of the hope of eternal ſalvation; — deſpair then adding, to the exceſs of grief, the aſtoniſhment of horror, the agonies of terror, and the fury of hatred, and revenge, towards ourſelves or others; — its effects are violent, and even diſcordant; — violent, from the acuteneſs of the diſtreſs, and of the other emotions, which accompany it; and diſcordant, from their oppoſite, and diſcordant influence on the nervous, and vaſcular, ſyſtems; tending to excite immediately both a determination of the circulating blood to the ſurface of the body, with an increaſed action of the oſcillatory motion of the capillary arteries; and a ſpaſmodic affection of the ſame veſſels, and a conſequent retropulſion of the blood into the large veſſels; and, ſooner or later, a diminution, in their natural order, of all the tones of the body: and, in ſhort, producing every kind of diſorderly motion, which has a tendency to injure, or deſtroy, the human frame.

frame. For,—— as HOFFMAN* no leſs juſtly, than ingeniouſly, obſerves, —— "as the "motions, in the body, hoſtile to nature; "and productive of diſeaſe, may be divided "into *three* general CLASSES; the violent "*motion of a fever*, which impels the blood "forcibly from the inner to the outer parts "of the body; of *ſpaſm*, by which it is dri"ven from the external parts to the internal; "and *atonia*, which conſiſts in the too great "reſolution, and relaxation, of the moving "fibres, and the remiſſion of their tone: ſo, "in like manner, there are three violent paſ"ſions

* "Sicuti *tres* maxime motuum naturæ hoſtilium & morbificorum dantur CLASSES, ut vehementior *febrilis*, qui ab intra foras cum impetu pellit ſanguinem, & *ſpaſmus*, qui ab exterioribus eum urget ad interiora, & denique *atonia*, quæ in nimia reſolutione & relaxatione fibrarum motricium & remiſſione toni conſiſtit; ita etiam tres vehementes in anima ſic dicta ſenſitiva exurgunt paſſiones, quæ ſingulas has motiones morboſas peculiari modo fovent & ſuſtinent, adeo, ut IRA *motu febrili*, TERROR *ſpaſmo*, TRISTITIA *atonia* operationes ſuas exſerant. Et quem admodum ira & terror celerrime agunt, ita triſtitia tardiori paulo gradu noçet, paulatim corporis vires depaſcendo, & tonum ac robur partium ſolidarum ſolvendo."——HOFFMAN. *Med. Rat. Syſtemat.* Tom. II. Part. II. cap. 1. § 30.——*Operum* Tom. I. p. 193.

" ſions in what is called the ſenſitive ſoul, " each of which is in a peculiar manner a- " dapted to excite and keep up, its correſ- " ponding morbid motions in the body ; ANGER operating by the excitement of a *febrile* " motion, TERROR by a *ſpaſmodic* one, and " SORROW by the *diminution of tone.* And as " anger and terror act with rapidity, ſo ſor- " row injures more gradually, by inſenſibly " conſuming the powers of the body, and " relaxing the tone and vigour of the ſolids."

DESPAIR of every kind, from whatever cauſe it may have originated ; whether from the loſs of friends, fortune, or liberty, or from religious diſtreſs and apprehenſion ; very readily terminates in Inſanity : and, even in thoſe perſons, in the production of whoſe diſtreſs religious fear was no way, originally, concerned, it very commonly happens that, by exciting a gloomy turn of mind, which diſpoſes it to view the worſt, and moſt unpleaſing, ſide, of whatever concerns the welfare of the unhappy ſufferer, it degenerates,

rates, ſooner or later, into religious deſperation, in which——

"Hope never comes, that comes to all;"——

a dreadful ſtate of mind, which conſtitutes one of the moſt diſmal, and ſhocking, varieties, of pathetic Inſanity.

FEAR is the emotion which we feel, when we apprehend that we are in danger of being deprived of ſome *preſent good* which we enjoy; or that we ſhall be prevented from obtaining ſome *abſent good* of which we are in purſuit; or when we conceive ourſelves to be threatened with ſome *impending evil.*——When the evil apprehended is ſuch as threatens injury to the body, or deſtruction, to life, fear impels us to ſhrink from, and avoid, the danger; and to eſcape by flight from the coming miſchief.

Conſternation is ſudden and exceſſive fear, which ſo diſcompoſes the mind, and diminiſhes its influence on the muſcles ſubſervient to voluntary motion, as to take away, always

ways in a great degree, and ſometimes entirely, the power of reſiſtance, or of flight.

Terror, is a ſudden and exceſſive fear, in which the ſtrong deſire of avoiding the impending danger, gives a ſudden, and extraordinary, increaſe, during its continuance, of the nervous power; and produces the moſt wonderful, and almoſt incredible, exertions of ſtrength, and celerity, as there may happen to be occaſion, and opportunity, for flight, or neceſſity for reſiſtance.

THE effects of fear are, in ſome of their circumſtances, as hath already been obſerved, in a note, from Dr. BRYAN ROBINSON,¶ the ſame with thoſe of grief. They both diminiſh the tone of the muſcles, and blood veſſels, and leſſen the excretions of inſenſible perſpiration, and ſweat; but in other reſpects they differ very conſiderably. Grief is a permanent, or, if I may be allowed ſo to term it,

¶ See above, p. 347.

it, a *chronic* paſſion; fear a momentary, and *acute* one. As debility of mind, and body, diſpoſes to, and aggravates, both; ſo they both tend to increaſe that debility: but grief produces this effect directly, by an immediate diminution of the muſcular, and vaſcular, tones; fear only indirectly; by exciting a general ſpaſm of the muſcles, and veſſels; poſſibly, in ſome degree, of the whole vaſcular ſyſtem, not excepting the large veſſels, and even the heart itſelf, but eſpecially, and conſpicuouſly, of the capillary arteries on the ſurface of the body; and exhibiting a reſemblance of the ſeveral ſtages of a regular paroxyſm of an intermitting fever,—the *cold fit*,—the *hot fit*,—and the *ſolution*;—the effects of *ſpaſm*,—*reaction*,—and *relaxation*;—all of which, in ſome degree or other, in proportion to the violence and duration of the paſſion of fear, are inſtrumental in the production of debility, and a diminution of tones. Theſe ſtages are particularly obſervable, when a ſudden fright is ſoon perceived to have ariſen from a falſe alarm. The ſymptoms of

cold,

cold, paleneſs, and trembling, accompanying ſpaſm, are, in ſuch caſes, ſpeedily relieved by a glow of warmth over the whole body, and a fluſhing of the face, which are ſucceeded by a free perſpiration, terminating in a temporary debility, which ſoon diſappears. But when the fear is great, and its cauſe continues for any conſiderable length of time, the ſpaſm is more violent, and durable, and the ſymptoms of reaction proportionably leſs conſpicuous in their effect of relaxing it; which they do only momentarily, and at intervals; the ſpaſm being obſtinately kept up, with ſome remiſſions, by the exceſs of fear, as long as the cauſe continues; or, even when it has ceaſed, as long as a vivid impreſſion of it remains upon the mind; and abating as the cauſe ceaſes, or the impreſſion abates.

IN *conſternation* the mind itſelf is ſo diſcompoſed as to be incapable of perceiving, and determining what means to purſue to avoid danger; or of aſſuming courage to reſiſt it;

it: and the body, by the violence of the vaſcular, and muſcular ſpaſms, is rendered unfit to be acted upon by the mind; and all ſenſation, and ſometimes, even all irritability, ſeems nearly to ceaſe for a moment, in conſequence of the ſudden, and enormous exertions, of which they were the cauſes.

IN *terror*, the mind is, likewiſe diſcompoſed; but not ſo confounded as to be inſenſible of every means of ſafety. It has neither compoſure, nor leiſure, to deliberate, or to ſearch for the beſt; but, if there are any, however unlikely, and ſometimes, however deſperate, it ſeizes that which moſt readily offers itſelf, and which though deſperate, appears perhaps to be the only one; and the reaction of the heart, and larger arteries, being leſs overbalanced by the ſpaſm on the ſurface, and the muſcles being not ſo much affected as to become unfit inſtruments of the minds agency; it is able to rouſe them into ſuch wonderful exertions of ſtrength, or celerity, as they could ſcarcely put forth on any

ny common occaſion, and as are ſuited to the vehemence of the terror with which it is affected, and the greatneſs of the obſtacles oppoſed to an eſcape from the threatening danger.

THUS we ſee that in *fear* the ſpaſm is leſs violent, and the reaction moderate; in *conſternation*, and *terror*, the ſpaſm is great; but greater in the former, than in the latter; while, at the ſame time, the reaction in the latter is great, and, ſo far as the mind is concerned, often exceſſive; and in the former it is always feeble, at leaſt ſo far as the mind is concerned, and ſometimes none at all.

THE ſymptoms of ſpaſm are paleneſs, coldneſs, trembling, a contraction of the features of the face, and perhaps of the bulk of the whole body; the univerſal ſpaſm of the capillary arteries driving the blood from the ſurface of the body, and from all the parts to which they are diſtributed, to the internal parts, and into the larger veſſels; and that of the muſcles altering their form, ſhortening their

their length, and contracting their dimenſions. During the prevalence of ſpaſm the pulſe is ſmall, weak, and irregular; all evacuations, or at leaſt all excepting thoſe of urine and ſtool, are diminiſhed or ſuppreſſed; the diſtribution of the circulating fluids is irregular, accordingly as the ſmall arteries in different parts are by nature, or acquired prediſpoſition, more or leſs diſpoſed to be ſpaſmodically affected; or as the ſpaſm in different parts happens to be more or leſs intenſe, and more or leſs readily overcome. The ſpaſm ſometimes ſo empties the ſmaller veins, partly, perhaps, by its immediate action upon them, and partly by cutting off the ſupply from the ſmall arteries, that, if a vein be opened, ſcarcely a drop of blood will flow from the orifice: it renders wounds mortal which without ſuch a fatal auxiliary might have terminated happily; it cauſes gangrene; dries up old ulcers, iſſues, and ſetons; and has been known to produce, in conſequence of this ſuppreſſion of accuſtomed evacuations, dangerous

dangerous aſthmas, ſpaſmodic colics, and other alarming complaints; it ſuppreſſes hemorrhages, the menſes, the lochia, and the milk; ſtrikes in eruptions, as in the ſmall-pox, meaſles, and other kinds of efflorescences in fevers; and, by its influence in contracting the ſtomach, inteſtines, and biliary ducts, in diminiſhing the tone of the whole alimentary canal, and impeding digeſtion, as well as ſuppreſſing the alvine evacuation, it produces jaundice, hyſterical and hypochondriacal affections, in thoſe perſons in particular who are ſubject to them, diſtentions and pains in the bowels, and all the variety of ſymptoms attending on flatulency, and indigeſtion.

THE blood being thus driven back by the ſpaſm of the ſmall veſſels towards its ſource, and accumulated in the large veſſels in the neighbourhood of the heart, and preſſing from the veins to be tranſmitted by that organ in the regular courſe of circulation, faſter than

than its accumulation in the large arteries will ſuffer it to be tranſmitted, a ſenſe of uneaſineſs, and anxiety, is produced, the large veins and arteries, are both at firſt diſtended, and afterwards the arteries more, and the veins leſs ſo, it is ſtimulated into frequent, and often fruitleſs action, tending to overcome the ſpaſm, and throw off the load of accumulated blood, which oppreſs it; and the lungs being in like manner overloaded, a quick, and difficult, reſpiration accompanies, and increaſes the anxiety.

When the cauſe of fear is not very great, or quickly ceaſes, the ſpaſm, being ſlight, or ſoon ſpontaneouſly giving way as its cauſe diſappears, is readily conquered, and eaſe ſpeedily obtained. But where the cauſe is of great magnitude, and ſubſiſts long, the efforts of the heart are of but little efficacy in overcoming the ſpaſmodic influence of fear: for while the affection of the mind ſtill continues unabated, the ſymptoms of ſpaſm will ſtill ſubſiſt, and predominate. During this

unequal

unequal conteſt; in which not only the exertions of the heart are enfeebled, and diſordered, by the impediment oppoſed to them by the quantity of blood preſſing upon it on every ſide, but, poſſibly, it may itſelf be ſpaſmodically affected, as well as every other part of the body capable of motion, whether voluntary or involuntary; the pulſe varies, as the vigour of the heart riſes or falls; as it is rouſed into animated reſiſtance, or gives way to the ſuperior force of its antagoniſt; and is, accordingly, quick, weak, hard, full, throbbing, ſoft, ſmall, undulating, irregular, or even intermitting, and ſometimes ceaſes altogether: whence palpitations, ſwooning, and even death itſelf. And as in this ſtruggle it may happen, from ſome prediſpoſition in the conſtitution, or from ſome accidental circumſtance, that the blood may be determined more plentifully to ſome particular part, than to others; or ſuch part may be more liable to be injured; if it be thus copiouſly diſtributed to the head, it may produce apoplexies, epilepſies, palſies, or ſpaſmodic ſymptoms;

ſymptoms; if to the lungs, it may occaſion difficulty of breathing, a ſenſe of ſuffocation, ſpitting of blood, inflammation, a large ſecretion of mucus, or of matter: — if determined to the uterus, in the time of geſtation, it may procure abortion; in the time of menſtruation, or in perſons ſubject to ſuch diſcharges, at other times, it may cauſe profuſe menſtrual evacuations: and both in the time of geſtation, and of lying-in, it has been known to raiſe tubercles in the breaſt, probably in conſequence of a retention and coagulation of the milk, which have ſometimes ended in ill conditioned, and cancerous ulcers. And as ulcerations in the lips, and eryſipelatous inflammation in various parts of the body, have been obſerved to ſucceed the perturbation of terror, they have not unreaſonably been attributed to the diſorder excited in the circulation by this agitating paſſion.

SINCE the effects of fear upon the body, and the ſymptoms of a febrile paroxyſm, ſo exactly

exactly reſemble each other, it is not at all wonderful that fear alone, without the aſſiſtance of any external cauſe, ſhould give riſe to a fever; and in ſuch as are of a bad habit of body, of the very worſt kind, and attended with the moſt alarming debility: or that terror immediately preceeding, or exactly coinciding with, the acceſſion of a fever, originating from ſome other cauſe, ſhould produce the moſt violent ſymptoms; and add greatly to the danger previouſly exiſting; or create danger where before there was none; or, at leaſt, ſhould ſo change the appearance of the diſeaſe, as to deceive the moſt ſkilful phyſician, who might not happen to be acquainted with this circumſtance, into an apprehenſion of more danger than a knowledge of the real nature of the fever would warrant.

NOR is it wonderful that fear ſhould diſpoſe the body to the admiſſion, and aggravate the violence, of peſtilential, variolous, and putrid infections; ſince, not only the effects of fear, and the ſymptoms of a fever, are exceedingly ſimilar, but the whole body,

not excepting the heart itſelf, being much enfeebled by the general ſpaſm attendant upon fear, it is not difficult to conceive why ſuch infectious miaſmata as act upon the body in a ſimilar manner, and whoſe malignancy depends, in a great meaſure, on the diminution of the force and vigour of the heart, ſhould be moſt eaſily received into, and retained by, ſuch bodies as are alreadydebilitated, and prepared for them, by the influence of fear; and, when ſo received, why they ſhould excite the moſt alarming ſymptoms, and commit the moſt dreadful depredations. It is, likewiſe, eaſy to conceive, why fear ſhould be of a moſt dangerous tendency, and ought moſt carefully to be guarded againſt, in ſuch diſeaſes already exiſting: why it is particularly miſchievous in exanthematous fevers, by preventing, or repelling, the eruption; and in all fevers at the approach of a criſis, by diſturbing the ſalutary operation of nature, and ſuppreſſing the critical evacuation by which ſhe was meditating to free the body from the diſeaſe: and why, as fear more readily

dily ſeizes upon, ſo it more grievouſly afflicts, and debilitates, thoſe who are already in a ſtate of weakneſs, and debility; and is, in a word, of moſt dangerous operation on all ſuch as have been exhauſted by any large evacuation, or other means; or who are affected with diſeaſes accompanied with ſpaſmodic ſymptoms, or any great diminution of tone; or whoſe vital powers, though conſidering their advanced period of life, they are apparently good, have yet felt the refrigerating and depreſſing influence of age.

WHILE the cauſe of fear remains unabated, the reaction of the heart may produce partial, and temporary relaxations; or rather, perhaps, the violence of the ſpaſms themſelves; according to the maxim that ſpaſm and relaxation mutually generate each other; and from one or both theſe cauſes, may ariſe thoſe cold clammy ſweats which ſo commonly affect perſons under the affluence of this paſſion: but the ſpaſm will continue to predominate, till, the cauſe ceaſing, or abating, it will at length give way; the natural

warmth will gradually return; a more copious, regular, and durable perſpiration will ſucceed; the ſphincters will be relaxed; irritability revived; the oſcillatory motions of the ſmall arteries renewed; though at firſt imperfectly, and unequally; and the balance of circulation to the ſurface will begin to reſume its due equilibrium; which, however, not being at once regularly and perfectly reſtored, the blood, hitherto reſtrained within the narrow limits of a confined circulation, and the natural excretions hitherto ſuppreſſed, will be urged on by the violence of reaction, and the precipitancy of having overcome oppoſition, with unuſual exertion and activity, and force open a paſſage where ever they find the leaſt reſiſtance; whence the ſtate of ſolution is not uncommonly accompanied with diarrhœa, a flow of pale urine, of the menſes, even when ſuppreſſed, of the lochia, and ſometimes, as we are told, with a voluntary emiſſion of the ſeminal fluid; accordingly as particular combinations of the circumſtances juſt mentioned happen to determine.

BUT, beſides the diſorders, and diſturbances, above enumerated, Inſanity of the worſt, and ſometimes of the moſt obſtinate kind, is a frequent conſequence of great and exceſſive terror; and, when it ariſes from this cauſe, it uſually commences immediately, and retains the character, and often the very object, of the paſſion which gave it birth.

FEAR, and terror, are adapted to produce Inſanity, by the livelineſs of the impreſſion, from which the mind cannot afterward free itſelf; by the activity of the brain, neceſſarily accompanying ſo violent an emotion; and by the ſudden and extraordinary determination of blood to that organ: the agency of all which natural effects of this paſſion, in the production of Inſanity, will be much promoted, wherever they meet with a temper of mind peculiarly favourable to, and ſuſceptible of the agitation of exceſſive terror; and a conſtitution of brain diſpoſing its medullary ſubſtance

ſtance to violent, and permanent vibrations, and its ſmall arteries to rapid oſcillations.*

UNDER

* CÆLIUS AURELIANUS gives the following inſtance of Inſanity from fear.

"*Turbine* repentino expaveſcentes atque percuſſos quoſdam ſic ait (DEMETRIUS), ut etiam *oblivione* prægeſtorum afficiantur. Sic denique *Artemidorum* grammaticum APOLLONIUS memorat, &c."—*Morb. Diuturnor.* Lib. I. c. 5. § 151. p. 328.——See above, Vol. I. p. 165.

"DEMETRIUS *informs us that ſome perſons have been ſo terrified, and alarmed by a ſudden whirlwind, as to forget their paſt tranſactions: and that* ARTEMIDORUS *the grammarian, being terrified by the unexpected appearance of a crocodile, was ſo much diſordered by the fright, that he not only imagined that the animal had devoured his left leg and hand, but even forgot all that he had learned.*"

See a deplorable hiſtory of Inſanity from terror, terminating in ſuicide, in BOERHAVII *Prælection. Academ. de Morbis Nervorum.*——Tom. II.

Frightful dreams have produced the ſame effect; as BOERHAAVE obſerves (Ib. p. 414.); and as I can affirm from experience.

HOFFMAN relates a caſe of Inſanity from terror, in a woman after lying-in; and I have often met with inſtances, in which the moſt violent, and alarming ſymptoms of this diſorder have ſucceeded frights.——Vide HOFFM. *Conſult. & Reſpons. Med.* cas. 37.——*Operum.* Tom. IV. p. 64.

UNDER the general head of fear may very properly be reckoned *ſhame*, which is a dread of cenſure, or diſgrace, or of indelicacy; from a conſciouſneſs of having acted vitiouſly, or indiſcreetly, or ſo at leaſt as to incur the diſapprobation of thoſe perſons of whoſe reprehenſion, or contempt, we are afraid; or from a conſtitutional diffidence; or from a nice and lively ſenſe of modeſty; and when ſuddenly excited, on any particular occaſion, is accompanied with a fluſhing heat over the body in general, and particularly in the head, face, neck, and boſom; and often diſcovers itſelf by a ſhy and downcaſt look, and by the warm ſuffuſion of bluſhing.

THE ſudden emotion of ſhame exciting an increaſed action of the ſmall arteries of the head, and brain; as is evident from the heat and fluſhing of the head and face, and from the dizzineſs, throbbing, and noiſe in the head, which are ſometimes all experienced in a very conſiderable degree, while under the influence of a very lively feelings of this paſſion; is capable of producing conſiderable effects;

effects; and may, when violent, and attended with much fear, bring on ſudden delirium, and Inſanity; but more is to be dreaded from its becoming permanent and habitual, and adding to the pain of perpetual apprehenſion from the eyes of every beholder, the fixed corroſion of ſettled grief, anxiety, dejection, and deſpair: and how theſe affections of the mind may favour the introduction of Inſanity has been pretty fully explained already.

Suſpicion, and *jealouſy*, are ſo nearly allied, that the former may be conſidered as differing from the latter chiefly in degree, and, perhaps, in ſome inſtances, in the nature of its object: *ſuſpicion* being the apprehenſion of deſigns formed againſt us, or wrong done to us, by certain individuals, on whom it reſts without proper proof; and *jealouſy* being a ſimilar apprehenſion, leſt, by the machinations of another, we ſhould be deprived of ſome good, of which we are anxious to retain the poſſeſſion; and which we ſo highly value, and ſo much dread the loſs of, as without juſt cauſe to conceive a fear of ſuch machinations.

tions, and to magnify the ſlighteſt evidence, in favour of our apprehenſions, into the ſtrongeſt proofs.

THIS affection is more particularly diſtinguiſhed by the appellation of jealouſy, when the ſource of ſuſpicion is the love between the ſexes, and its principal object the perſon beloved.

Suſpicion and *jealouſy*, may, in the moſt candid, and generous minds, exiſt in a high degree, when countenanced by ſtrong appearances, and great probability; and when the object, if not the moſt worthy, has at leaſt, by ſome means, acquired the power of intereſting the heart. In ſuch caſes, they are capable of giving riſe to Inſanity; and eſpecially where the brain is not originally very ſtrong; as well by their own violence, and by that inceſſant brooding over the object which gave birth to them, inſeparable from any great degree of paſſion; as by the various diſtreſſing, and agonizing emotions, which the fancied

tance of the object of these malevolent, and uncomfortable feelings, and the firm persuasions of their being well grounded, falling little short of complete conviction, and operating on the mind with the force of certainty, cannot fail to excite.

BUT, more commonly, these painful, and tormenting passions, are the scourges of weak, and gloomy minds; and though they may sometimes be supported on sufficient ground, both of importance, and probability; and may then operate like the same passions in the minds of the candid, and generous; and with more certainty, as being less likely to subside, or to yield to such proofs as would in them perfectly eradicate suspicion: yet are they more commonly erected on the smallest foundation; the baseless fabrication of habitual fear, anxiety, and melancholy; and often the mere symptoms of incipient Insanity. Habits, therefore, of suspicion and jealousy, since they arise from causes approaching to, and productive of, Insanity, and themselves parti-

participate conſiderably of its nature, are prone to terminate in a diſorder which they ſo nearly reſemble, and which often originates from the ſame common cauſes.

As ſuſpicion, and jealouſy, are the apprehenſion of ſome particular evil, from an enemy or a rival; ſo *anxiety* is a general, and habitual fear, of diſaſtrous events; a reſtleſs ſolicitude, which will never admit of the enjoyment of the preſent moment, through an unreaſonable care for the future; which, while it creates, and magnifies uncertain evil to come, diminiſhes, or annihilates certain and preſent good. It is commonly the affection of a weak, and broken ſpirit, and like ſuſpicion, and jealouſy, is a ſymptom of a timid, gloomy, and unſound mind: and readily ſinks into the deepeſt diſtreſs of fixed melancholy, to which it has ſome reſemblance, and of which it ſeems to be the firſt ſtage; and may in the end aſſume any of the numerous forms of notional, or ideal, Inſanity.

THE laſt, and not the leaſt important affection of the mind, to be conſidered, is *religious fear*, or an anxious apprehenſion of eternal puniſhment in the life to come. It may derive its origin directly from ſuperſtition, and indirectly from enthuſiaſm; which taking root only in minds weak by nature, or debaſed by habit, may not only give occaſion to ſuperſtitious, and fanatical Inſanity; but, as obviouſly appears from what has before been ſaid in treating of theſe diſorders,* and of religious joy, † and of deſpair, ‡ may with facility introduce *deſponding Inſanity*.

FOR ſuperſtition, which views the deity as "an unreaſonable, fantaſtical, and capricious being, whoſe favour is to be obtained, "or anger averted, by idle ceremonies, ridi-"culous

* See above, Vol. I. p. 272—311.

† See p. 349 of this Volume.

‡ See p. 399 of this Volume.

" culous obſervances, or painful mortifica-
" tions;" *—in which, in ſhort, as CICERO remarks, " there is a vain fear of the Gods;"† —being built upon notions which are not derived from reaſon, and the nature of things, but owe their exiſtence to the uncertain ſuggeſtions of fancy; will vary as fancy varies; and, having no ſatisfactory, or fixed principles, on which the mind can reſt, aſſured of the good effects of its good and honeſt intentions, may lead it to fear puniſhment one day, from a conduct by which on a preceding, it had hoped to draw down a bleſſing; and to tremble in the anxious uncertainty whether its beſt intended actions, will be rewarded with good or ill, by a deity of whoſe attributes it has formed ſuch crude and indigeſted conceptions. For as a fantaſtical, and capricious deity, who appears to us to be governed by the moſt irrational motives, may be fantaſtical,

* See above, Vol. I. p. 280.

† In qua [ſuperſtitione] ineſt timor inanis Deorum.—*De Natura Deorum.* Lib. I. cap. 42, Ed. DAVISII.

fantaſtical, and capricious, in his rewards and puniſhments, our proſpects of his favour, or frown, will preſent no certain, and determined objects; and our hopes of happineſs, or fears of miſery, will vary as accident ſhall produce a change of circumſtances; and will riſe, or fall, as our bodily tones are elevated, or depreſſed; our ſenſations and perceptions pleaſing, or unpleaſing; and our ſpirits high, or low. But as the mind cannot be well at eaſe in a ſtate of doubt, and uncertainty; and as the obſervances of ſuperſtition are often ſevere, ſlaviſh, and anxious; bodily indiſpoſition, mental debility, and abject terror, to ſay nothing of other cauſes, will all frequently contribute to ingraft Inſanity on ſuperſtition, and religious fear.

ENTHUSIASM, * being founded in like manner upon the feeble, and unſteady, baſis of fancy, though more pleaſing in its immediate influence, is perhaps not more certain in its operation,

* See above, Vol. I. p. 280.

operation, or more happy in its conſequences, than ſuperſtition. And its hopes being the reſult of feeling, as well as of fancy; and depending, more directly than thoſe of ſuperſtition, upon the ſtate of bodily tones, perceptions and ſenſations, and animal ſpirits; and tones elevated, perceptions and ſenſations rendered pleaſing, and ſpirits animated, above their natural pitch, by mental activity, and exertion, being always ſucceeded, without the intervention of ſome other invigorating cauſe, by proportional remiſſion, wearineſs, and depreſſion; an eaſy paſſage is opened, from the raptures of enthuſiaſm, to the apprehenſions, and horrors, of religious fear, and *deſponding Inſanity*.

VII. *Too great* ACTIVITY *of* IMAGINATION.

THE imagination is too active when it is for ever buſily employed; is led by the ſlighteſt aſſociations to paſs with facility from one object to another; is diſpoſed to arrange and connect,

connect, by ſuch ſlight aſſociations, the moſt diſſimilar, and incongruous; and to ramble with rapidity through an endleſs variety: or dwells inceſſantly upon the lively, and indelible impreſſion, of ſome one object of paſſion, and without abating of its activity, confines itſelf to the ſubject of emotion, over every conceivable relation of which, and it is fruitful in the diſcovery of them, it ranges with incredible avidity.

AN over buſy imagination implies a too active ſtate of the mind, and brain; and an imagination habitually buſy, implies, that the mind and brain are habitually and conſtitutionally, of too active a diſpoſition. How ſuch a ſtate of the mind, and brain, is productive of, and how nearly it actually approaches to, a ſtate of Inſanity, has been ſhown at large, in treating of too intenſe application of mind to whatever may long, and deeply engage its attention; and of the influence of the paſſions.

AND

AND though the activity of mind, in a too buſy imagination; which is little diſpoſed to reſt long upon any one object, but ranges at random from one to another with a celerity which is ſcarcely to be termed thinking; is much leſs intenſe than when the mind is eagerly fixed on the conſideration of ſome one important, or apparently important object, either of ſtudy or paſſion, which engages its whole attention; yet the tendency of a too active imagination to paſs, by the ſlighteſt aſſociations, from one object to another; to arrange, and connect, by ſuch ſlight aſſociations, the moſt diſſimilar, and incongruous; as they indicate a nearer approach to, and reſemblance of, Inſanity, than mere intenſeneſs of thinking; and as that vicinity, and ſimilitude, are here ſuppoſed to be conſtitutional; they not only mark a weakneſs of mind, incompatible with great reaſoning powers, and tending to obſtruct, and impede our progreſs, in all the moſt rational and valuable purſuits of life; but are more frequently inſtrumental in the production of Inſanity, by giving energy, and effect, to

other cauſes, which, without ſuch aſſiſtance, might more commonly fail to produce it, than mere application of mind, however intenſe, to one object; or perhaps than any other cauſe whatever.

For an imagination naturally too active, and fanciful, not only tends to excite, and propagate, that inordinate activity of the brain, ſo eſſential to the exiſtence of Inſanity; but is capable of giving ſtrength, and efficiency, perhaps to every other agent which may concur in the production of that diſorder; and eſpecially of aggravating, and ſtrengthening the paſſions, by exciting, nouriſhing, and confirming, prejudice, and error; by raiſing up an army of ideas congenial to their nature, and hoſtile to reaſon, and moderation; and thus fomenting, ſtimulating, and giving habit, and vigour, to their folly, and madneſs.

Indeed ſtrength of paſſion, activity of imagination, and erroneous judgment, are ſo intimately connected, ſo aid and ſupport each other,

other, and are ſo oppoſite to, and deſtructive of, ſound reaſon, that whenever any of them have ariſen to a great height, and flouriſh in the extreme, they partake of the nature of Inſanity, from which they differ not ſo much in kind, as in degree.

THE too great activity of imagination here intended, though often combined with, is entirely diſtinct from genius; which, in proportion as it is connected with it, it tends to diminiſh. It implies an incapacity of cloſe attention; an inability to retain a number of related objects in the mind, at the ſame time, and deliberately to compare, and appreciate, their relations; in ſhort, it implies a defect of judgment: but judgment is eſſential to genius; which cannot exiſt without a large portion of it, and is then only perfect, when, to a rich vein of imagination, are added the moſt comprehenſive views, and nice diſcriminations, of this diſcerning, and governing faculty. For, as the judicious Dr. GERARD very ingeniouſly remarks, "the fineſt "imagination, totally deſtitute of aſſiſtance

"from judgment, would in ſome meaſure "reſemble a blind man, who may be very "dexterous in groping the right road, but "cannot know certainly, whether he con- "tinues in it, and has no means of recover- "ing it, if once he ſtrays." *

AND as genius cannot exiſt in any eminent degree without judgment; and, as judgment is the power of regulating the activity of imagination, of arreſting its too rapid progreſs, of fixing its attention, and of directing its operations, and exertions, to ſome certain, proper, and important end; ſo the too active ſtate of imagination which I here conſider as ſubverſive of mental perfection, and productive of Inſanity, is ſuch an activity as the mind has not power to check, as the judgment cannot regulate, or control; which, when not in ſome degree fixed by paſſion, flits at random from object to object, and is incompatible with that ſteady attention,

* *Eſſay on Genius*, p. 82.

tion, and that juſt diſcrimination of ſuitable and unſuitable, of ſimilitude and difference, of ſymetry and diſproportion, of regularity and diſorder, of beauty and deformity, of truth and falſhood, of right and wrong, which are not to be acquired without patient obſervation, and exact judgment, ſo eſſential to the operations, and exiſtence, of true genius.

AND ſo prone is imagination, where it is active, to run into this error of rambling without its proper guide; and to be impatient of the ſlow proceedings of minute attention, and the ſevere conſtraint of ſcrupulous judgment; that true genius is as rare, as it is excellent; and activity of imagination, which is no uncommon endowment, and which, as well as judgment, is eſſential to genius, is more frequently the parent of folly, than the companion, and aſſiſtant, of judgment, in the production, and ſupport, of thoſe great, and ſublime exertions, to which their united operation is capable of raiſing the human mind.

SINCE

SINCE activity of imagination is ſo nearly related to folly; and ſince, wherever it exiſts in any great degree, whether by nature, by habit, or by the occaſional influence of ſome ſtrong emotion; and particularly by love, a paſſion in which imagination reigns unrivalled; it muſt frequently put the brain into a ſtate nearly reſembling that which is connected with a diſordered mind; it is calculated to give occaſion to Inſanity, as well by the very active vibrations which it excites in the fibres and veſſels of the brain, as by its natural alliance with folly. It is with much propriety, therefore, that the POET OF NATURE * has connected, by this common character of imagination, the poet, the lover, and the madman.

OF the influence of imagination, in the production of Inſanity, I ſhall have occaſion to

* The lunatic, the lover, and the poet,
Are of imagination all compact:
One ſees more devils, &c. &c.

SHAKESPEARE'S *Midſummer Night's Dream*, Act. V. Scene I.

to make ſome farther obſervations, in treating of the next ſource of this diſorder, to which I now proceed.

VIII. IMBECILITY *of* MIND.

By *imbecility of mind*, I underſtand that debilitated ſtate of its faculties, which renders it incapable of withdrawing its attention from any train of thinking in which it is engaged, diſpoſes it to be carried away by the impulſe of the paſſions, or deluded by the haſty and ſuperficial combinations of imagination; and is ſubverſive of ſelf-command, rational conduct, and ſound judgment.

A WEAK judgment, therefore, where it exiſts originally, and by nature, as it often appears to do, may be no inconſiderable inſtrument in the production of Inſanity. How it may give occaſion to this diſorder, will be obvious, from a recollection of what has been ſaid on the effects of an inability to withdraw the attention of the mind from any particular train of thinking; and of the influence of

of the paſſions; and from a conſideration of what has juſt been advanced, relative to too great activity of imagination.

But though imbecility of mind, and weakneſs of judgment, may often be original, and natural; they are more frequently, perhaps, the offspring of the paſſions, imagination, and prejudices; which, by a thouſand accidental, and imperceptible, aſſociations, have a wonderful efficacy in deceiving, and impairing the judgment, diſtorting, and weakening, the operation of reaſoning, and expoſing the mind to almoſt every ſpecies of error, and deluſion.

Indeed ſuch is the power of the paſſions, imagination, and prejudices, united, as almoſt totally to confound truth and falſhood, right and wrong; and it may, I believe, be laid down as an undoubted maxim, that under their influence, we may perſuade ourſelves to believe whatever we pleaſe; or rather, whatever the habitual tendency of our minds inclines

inclines us to believe: * not only things the truth of which has not been, or cannot be demonſtrated; but which are oppoſed by a very high degree of probable evidence, or of which it were not very difficult to demonſtrate the falſhood.

THUS one political party, or one religious ſect, or an individual any way under the influence of ſtrong prejudice, will believe, on the ſlighteſt grounds, whatever is ill of another party, or ſect, or individual. Infidels of ſome ſorts, will not believe the ſtrongeſt evidence in favour of the chriſtian revelation; but will give credit to the weakeſt reaſonings, or the idleſt ſtories, againſt it, or where it is no

* Plura multo homines judicant *odio*, aut *amore*, aut *cupiditate*, aut *iracundia*, aut *dolore*, aut *lætitia*, aut *ſpe*, aut *timore*, aut *errore*, aut *aliqua permotione* mentis, quam veritate, aut præſcripto, aut juris norma aliqua, aut judicii formula, aut legibus."——CICERON *de Oratore*. Lib. II. n. 178. *Oper.* a GRUT. & GRON. edit. 8vo. p. 345.

" *For men are more frequently influenced in their judgment by* hatred *or* love, *or* deſire, *or* anger, *or* grief, *or* joy, *or* hope, *or* fear, *or* error, *or ſome other* paſſion *of the mind, than by truth, or by any eſtabliſhed decree, or by any rule of right, or by any regular form of judgment, or by the laws.*"

way concerned.* These are persons of weak minds, and small understandings; who, with the meanest reasoning powers, have the vanity to fancy themselves sagacious observers, acute reasoners, and superior to the superstitious prejudices of the vulgar. Such is the power of the passions; such the force of habit; such the delusion of wrong associations, and of an incorrect, and unsubdued imagination.

THE cause of all these errors is imbecillity of mind; in the production of which, though the agency of the passions, of habit, and of wrong associations, and prejudice, is added to that

* I mean not to comprehend in this censure the *philosophical deists*; such as really deserve that appellation; among whom are, I am persuaded, men of undoubted abilities, and exalted virtues, whose names ought ever to be mentioned with respect, and affection. In this class must be reckoned HUME, though too much led astray by the pride of originality, and the affectation of novelty; and highly blameable for his prejudices against the clergy: and ROUSSEAU, though at length driven into Insanity, by the liveliness of his imagination, and the sensibility of his passions: but VOLTAIRE, I fear, must be excluded; the brightness of whose genius would have shed a lustre on his name, and have made him the admiration and delight of his own, and of future ages; had it not been obscured by certain dark, and unpleasing, shades in his character, which lessen our esteem for him as a man; and, while they confirm to him the title of a wit, degrade him from the rank of a philosopher.

that of an incorrect, and unſubdued imagination; yet the chief ſource of this imbecillity, when not derived from the original ſtructure, or conſequent injury, of the brain, ſeems to be a too active, and ill conducted imagination; without the undue influence of which our very paſſions, which owe much of their violence to imagination, would become gentle and temperate, our prejudices would never be formed, or ſoon ceaſe, and judgment, however weak by nature, would lead us into no material error.

FOR it is the *province of fancy* to collect and bring together ideas, which, when unaided by due deliberation, and ſound judgment, it is diſpoſed to combine by any, the ſlighteſt, moſt arbitrary, and accidental relations; and when, therefore, in a ſtate of activity, to preſent to the mind, at one view, or in quick ſucceſſion, and to connect and aſſociate, when thus preſented, whatever in its rapid progreſs it perceives to poſſeſs any ſuch ſlender relations.

WHEREAS the *province of reaſon*, and judgment, is to conſider the ideas which are preſented to them with deliberate attention, and to reject all ſlight, arbitrary, and accidental relations; and only to arrange, combine, and aſſociate our ideas, according to thoſe relations which are ſtrong, permanent, and founded on the true and proper nature of things.

IN other words, the one deals in *imaginary* relations; the other in *real* ones; the one in the wildneſs of *invention*, and the brilliancy of wit; the other in the ſoberneſs of *truth* and *demonſtration*.

WHEN, therefore, the mind gives that credit to the ſlight, accidental, and arbitrary combinations of fancy, which is only due to the intimate, permanent, and natural ones of reaſon, it is then in an unſound, and ſickly ſtate: and the perſon ſo diſordered in underſtanding, and ſo irrationally judging, is to be conſidered as inſane; though the diſorder may be in ſo low a degree as ſcarcely to be perceptible, and he may not be deemed ſuch by the bulk of mankind.

THIS

THIS is the ſtate of mind which I have deſcribed as conſtituting *notional Inſanity*. It has no relation to *ideal Inſanity*, as ſuch: but when combined with paſſion of any conſiderable duration, or violence; as ſooner, or later, it generally is; ſuch intenſe, inceſſant, and uniform activity of mind, is at length produced, as renders it exceedingly liable to aſſume the ſymptoms of ideal, and phrenitic Inſanity.

PROXIMATE CAUSES.

SCARCELY any two caſes of what is nominally, the ſame diſeaſe, are, in every ſymptom, exactly alike; there being uſually more or leſs difference, both in the number, and nature, of the ſymptoms, and in their degrees of violence: and yet they are not without propriety called by the ſame name; ſince they agree in thoſe leading ſymptoms which noſologiſts have termed *pathognomonic*, and conſider as eſſential to, and characteriſtic of, the

the diſeaſe: but as the concourſe of ſymptoms, or, in other words, as the diſeaſe, varies, while the name remains unchanged; ſo the proximate, or phyſical, cauſe,—that cauſe which *exiſting, continuing, changing, or ceaſing, the diſeaſe muſt exiſt, continue, change, or ceaſe,**—will of courſe vary alſo: for though the name of the diſeaſe be ſtill the ſame, yet is its whole, and real nature, different: a circumſtance which, in conſidering the proximate cauſes of diſeaſes, cannot be too carefully attended to.

As it is almoſt, perhaps altogether, impoſſible to arrive at the knowledge of the true, and proximate, or phyſical cauſe, of moſt diſorders, we muſt, for the greateſt part, reſt ſatisfied with a few imperfect conjectures on this head; and may think ourſelves happy, if, by accurate obſervation, and juſt deduction from plain and undoubted facts, we can diſcover ſome very general cauſe, which always accompanies the diſorder; or certain

* GAUBII *Inſtitut. Patholog. Medicinal.* § 61. p. 18.—See above, p. 70.

certain ſpecific cauſes, which are, one or other of them, inſeparable from the ſeveral ſpecies; and can invariably obſerve that ſuch cauſe, or cauſes, being taken away, the diſeaſe either immediately, or ſpeedily, ceaſes.

THE proximate cauſes of Inſanity, from whatever remote cauſe, or cauſes, it may derive its origin, is, without doubt, ſeated in the brain. For ſince its action is immediately on the mind itſelf, whoſe operations it powerfully influences, and greatly deranges; its ſituation muſt be in that organ which is univerſally, and juſtly, acknowledged to be the immediate ſeat of union between the body and mind; and on whoſe ſound, and perfect ſtate, the perfect operations of the latter, during that union, ſeem entirely to depend.

IN confirmation of this, it may be obſerved, that in all violent degrees of Inſanity; as in the phrenitic, highly maniacal, or rapidly incoherent; or in any of the ſpecies of notional Inſanity when approaching to a phrenitic ſtate; there is always an increaſed activity, and

and turgeſcency, of the veſſels of the brain, as appears obvious from the fluſhing of the face, redneſs of the eyes, heat and pain of the head, activity of imagination, and perpetual watching, moſt, or all of which, may uſually be obſerved in this ſtate of Inſanity.

It may alſo be remarked, that ſome of the remote cauſes of this diſorder are ſeated in the brain; as water in its ventricles, in its ſubſtance, and between its membrances; and the various other diſordered ſtates of this organ, and its connections, enumerated among the *appearances on diſſection*:—that it is often combined with other diſeaſes whoſe immediate ſource is indiſputably in the brain; as dizzineſs, deafneſs, a ſenſe of weight, ſtricture, and numbneſs, acroſs the forehead, upon the crown, or at the back part, of the head, habitual headach, pain over the eyes, epilepſy, palſy, apoplexy, or the like:—and that ſuch diſorders of the nerves, ariſing from cauſes whoſe ſituation is remote from the brain, as either obſtruct, deprave or excite, falſe ſenſation, and frequently terminate in Inſanity; as well as its

its other remote cauſes which are not immediately connected with the head; are often known to exiſt, in a great degree, without exciting the ſlighteſt ſymptom of that diſorder.

As the proximate cauſe of Inſanity always reſides in the brain; ſo it is obvious that it muſt, ſome way or other, ſo affect it, and excite in it ſuch motions, or vibrations, as ſhall give riſe to thoſe kinds of ideas, or notions, which enter into the definition already given of Inſanity. If, therefore, the ſeat of the originally exciting cauſe be in any other part of the body, it muſt firſt ſympathetically produce a determination of blood to the head, and a change in the circulation, or vibratory motions, of the brain; before it can excite the ſmalleſt mental diſorder: and, even thoſe cauſes which immediately, and confeſſedly, act upon the brain; as intenſe application of mind, or violent paſſions; will be inſufficient for the production of Inſanity, or at leaſt will produce but a temporary one, till they have effected ſome great, and permanent change, of this kind.

And as ſuch great, and permanent change, neceſſary to the exiſtence of Inſanity, is moſt frequently the effect of an increaſed activity of the ſmall arteries, and a conſequent turgeſcency of the whole vaſcular ſyſtem of the brain; which ſeldom fail to accompany the beginning, and are never abſent from the violent ſtates, of this diſorder; we are led by a knowledge of this cauſe, to very uſeful, and important, practical concluſions, and directed to a rational method of cure; ſince it points out to us the great advantage which we may expect to derive from evacuations in almoſt every recent, and violent caſe of Inſanity; and eſpecially from topical evacuations from the head; and from ſuch other means, as can, in any way, divert the impetus of the blood from the veſſels of the brain, and abate their preternatural activity. And, happily, the obvious ſymptoms which uſually accompany this increaſed activity, and turgeſcency, of the veſſels of the brain, readily indicate its exiſtence, and its degree of violence. But as the brain may be in a plethoric ſtate, when the reſt of the body is not ſo; moſt of the

the remote cauſes of Inſanity being capable of exciting a turgeſcency in the brain, independently of any general fulneſs of the vaſcular ſyſtem; we may ſee the neceſſity of diſtinguiſhing when there is a general, and when only a local, plenitude; and of regulating accordingly, our evacuations, and other means of relieving the head.

It will appear obvious, too, from what has juſt been remarked above, why Inſanity may often remain, when the original exciting cauſe is taken away. This frequently happens, when the cauſe has continued for a long time unſuſpected, or unſubdued; and has, therefore, been gradually the occaſion of ſuch a change in the economy of the brain, as cannot eaſily be rectified; though the original, and exciting, cauſe, on which it now no longer depends for exiſtence, ſhould be taken away. Thus when Inſanity has taken its riſe from a fever, or a ſuppreſſion of the menſes, the diſorder often remains long after theſe cauſes have been removed; and eſpecially if the fever has been obſtinate, and violent;

or it has been long before the ſuppreſſed evacuation could be reſtored. This, among other reaſons, ſhews the importance of early, and vigorous help, in theſe moſt diſtreſſing, and formidable diſorders.

Of the real proximate, or phyſical, cauſe, I can ſay but little. The attempt to diſcover, or to explain it, would, I fear, be fruitleſs. This, however, I think I may ſafely ſay, that, as the neareſt, and moſt ſpecific cauſes, which we can diſcover, ſeem to be either a gradual congeſtion of fluids, of ſome kind or other, in the brain; or ſuch a ſudden determination of the circulating fluids to that organ, as produces the ſame effect; or any other cauſe of preternatural compreſſion of the brain; ſo the true, and actual, proximate cauſe of Inſanity, of whatever ſpecies, is not only ſeated in the brain, but is *ſuch a degree of compreſſion, or condenſation, of the medullary ſubſtance of the brain, or of that part of it, by means of which the intercourſe between the mind and body, is carried on, and on whoſe perfect and healthful tone, or texture, or conſiſtency,*

tency, the perfection of that intercourſe, and of all the mental operations, depends,---as gives riſe to images in the brain, as if exiſting externally, which have either no exiſtence in nature, or do not exiſt as they are at that time, or in that place, ſuppoſed to exiſt; or to ſuch notions as are obviouſly abſurd in their kind, or degree, and could only originate from an unſound ſtate, and undue operation, of the brain. But what are the ſpecific degrees of compreſſion, or condenſation; what are preciſely the parts compreſſed, or condenſed; how variations in theſe reſpects produce variations of Inſanity; and what are thoſe variations; muſt, I fear, for ever remain among the deficiences of our knowledge of theſe nice, and intricate, matters. There are, however, other variations, connected with the proximate cauſes of Inſanity, which are more obvious; and evidently differ in kind and degree, in the various ſpecies, and degrees of that diſorder. Theſe variations may be reduced, I think to four heads. For—

I. The ſmall arteries of the brain may be in too active a ſtate, and may produce by their

their undue activity, turgeſcency, compreſſion, and an approach to inflammation; during which ſtate if an inſane perſon die, not only the veins, and arteries, are all found turgid with blood, but the brain ſo expands itſelf on the taking off of the upper hemiſphere of the ſkull, that no compreſſion can again reduce it within its former boundaries: —Or——

II. THE brain may be compreſſed by a gradual accumulation in its veins, and ſinuſes, without any increaſed activity of the arteries:——Or——

III. WATER, or other preternatural ſubſtances, may occupy a place, which does not belong to them, in the brain; or parts enlarged by diſeaſe may occupy too great a ſpace; and, by their bulk, may compreſs its medullary ſubſtance:——Or——

IV. THERE may be a change in the intimate, and inviſible texture, in what HARTLEY calls the infiniteſimal particles, of the medullary ſubſtance of the brain; gradually,

ally, and inſenſibly, produced; either without the preſence, or intervention, of any of the above obvious cauſes; or by the mediation of one, or other, of them, from which it primarily derived its origin. —Indeed all theſe cauſes may not only be combined with, but may variouſly originate from, one another. Thus—

1. THE *firſt* cauſe, or a too active ſtate of the ſmall arteries in the brain, may [II] produce an accumulation of blood in the veins, and ſinuſes of the brain: — may [III] generate water, or other preternatural, or morbid ſubſtances, in that organ:—or [IV] may occaſion an alteration in its texture.

2. Compreſſion from an accumulation of blood in the veins and ſinuſes, may [I] excite a too active ſtate of the ſmall arteries, with turgeſcency, and compreſſion of the medullary ſubſtance from ſuch turgeſcency:— or [III] may give occaſion to the generation of water, or other preternatural ſubſtances, in the brain:—or [IV] to an alteration in its texture.

3. WATER

3. Water, or other preternatural ſubſtances, in the brain, may [I.] by compreſſion, and irritation, be the cauſes of too great activity of the arteries:—or [II.] may, by the ſame means, occaſion an accumulation of blood in the veins, and ſinuſes; on the one hand, by ſtimulating to too great activity the ſmall arteries, and on the other, by impeding the circulation of the blood through the veins, and ſinuſes, and obſtructing its return from the head:—or [IV.] may effect a change in the texture of the medullary ſubſtance of the brain.

4. Or a preternatural texture of the brain may be the origin [I.] of increaſed activity of the ſmall arteries, by obſtructing the paſſage of the blood through them, and variouſly ſtimulating them by previouſly exciting undue attention of mind, inordinate paſſions, or watchfulneſs, or in any other way giving riſe to too intenſe, and unvaried thinking, or to too active a ſtate of imagination:—[II.] of accumulation of blood in the veins, and ſinuſes; by the ſame means which gave riſe to the too active

tive ſtate of the ſmall arteries; and, eſpecially, in conſequence of ſuch increaſed activity;—and [III] in the ſame way, of water, and other preternatural ſubſtances, in the brain.

But that we may the better underſtand how theſe variations of the proximate cauſe of Inſanity, are inſtrumental in the production of its various ſpecies, it will be proper to take a ſhort view of the natural operations of the mind, and brain, relative to ideas, and notions; and then to conſider the manner, in which theſe ſeveral preternatural ſtates of the brain diſturb the natural current, and confound the ordinary, and eſtabliſhed connections, of our notions, and ideas. After which I ſhall endeavour to ſhew how ſuch ſtates are related to, and in what manner they are productive of, the ſeveral ſpecies of Inſanity.

Sensations, which are the inſtruments, and vehicles, and furniſh the materials, of all we know, are conveyed to the mind, as has been explained already, by certain vibrations, or motions, excited by their objects

on the medullary ſubſtance of the nerves, or of ſome ſubtile matter contained in them, on which their power, or irritability, depends, and propagated along the nerves to the brain; where, as they are perceived by the mind, they are termed IDEAS.

THE vibrations thus excited in the brain by external objects, have certain ſpecific qualities, correſponding to the objects which excited them; ſo that each object, in nature, has its ſpecific, and determinate vibrations, in the brain: and theſe vibrations excite in the mind diſtinct, and ſpecific, ideas, of the objects to which they relate.

SUCH ideas may be excited in the mind, at any time, during the abſence of their objects, by whatever is capable of renewing the ſpecific vibrations which belong to them.

THE abſence of their proper object is readily ſupplied, and their ſpecific vibrations are renewed, by thoſe accidental, natural, or arbitrary aſſociations, according to the order of which

which the ideas of external objects are, as it were repoſited in the mind, and, which reſult from its natural propenſity to bring into one view, and compare objects, and their ideal repreſentations, and either to disjoin, or to unite them together. For when objects have thus paſſed in review before the mind, or have any way been preſented to its obſervation, at the ſame time, thoſe vibrations which have once exiſted together, or in immediate ſucceſſion, are apt, on future occaſions, to vibrate at the ſame time, or to ſucceed each other in the ſame order, and connection.

THE perception that the mind has of the relations, and qualities, of ſuch objects of ſenſe, and whatever apprehenſions, or ſentiments, it can deduce from its perception, and experience, of ſuch relations, and qualities, are properly called NOTIONS; and are accompanied with correſponding vibrations, derived from, and compounded of, the various ſenſible vibrations to which they relate: and are apt to recur to the mind in certain and regular trains, according to the order of the ſenſi-

ble, and notional vibrations, with which they are aſſociated and combined.

When theſe *ideal* and *notional vibrations*, occur to the mind in their natural order, and retain their original, natural, and rational aſſociations; and the mind can retard, or accelerate, their progreſs, to a certain degree, at pleaſure; and can deliberately conſider them, and compare the paſt with the preſent; when, of courſe, memory holds her ſeat, connecting conſciouſneſs, as Hartley terms it, is unimpaired, and the aſſociations of truth, and decency, and propriety, and virtue, remain uninjured; in ſhort, when the mind can regulate properly all its operations; it is then in a ſound, and rational ſtate: but in proportion as the reverſe of this takes place, in ſuch proportion is it in a ſtate of unſoundneſs, and Inſanity.

Now ſuch an interruption of the regular courſe of the vibrations of the brain, and of the right operations of the mind, may be produced by each of the variations, above enumerated, of the proximate cauſe of Inſanity.

1. Too

1. Too active a ſtate of the ſmall arteries of the brain, and the conſequent turgeſcency, compreſſion, and inflammatory tendency, give riſe to high ſpirits; a quick and diſorderly ſucceſſion of ideas, and notions; vivid and lively conceptions; intenſe attention of mind to its own internal operations, without much regarding what paſſes without; ſuch animated revival of internal ſenſitive vibrations, in the abſence of their external objects, as deceives the mind into a belief of their actual preſence; unnatural, and abſurd, combinations of ſenſitive, and of notional vibrations, with themſelves, and with each other; violent, unreaſonable, ridiculous, and inconſiſtent emotions; exceſſive bodily exertions, the reſult of ſuch emotions; indecent, dangerous, and abſurd conduct; and a total want of a ſenſe of delicacy, propriety, and virtue: and ſometimes the compreſſion of the brain becomes ſo great, as almoſt entirely to deſtroy the knowledge, and perception of external objects; greatly to diminiſh irritability, and vigour; and, finally, to extinguiſh the powers of life altogether.

2. When

2. When the brain is compreſſed by a gradual accumulation of blood in the veins, and ſinuſes, without any increaſed activity of the ſmall arteries; ſuch compreſſion at firſt only excites headach, a painful ſenſation of numbneſs, and weight, in ſome part of the head, as acroſs the forehead, on the crown, or on the back part of the head, dizzineſs, paralytic trembling more or leſs, great nervous debility, diminution of tone, indolence, reſtleſſneſs, ſpaſms, and uncomfortable feelings, over the whole body, indigeſtion, hypochondriacal ſymptoms, low ſpirits, dejection, and melancholy; and the mind, unavoidably contracting an habitual gloomineſs, and being diſpoſed to dwell, with little intermiſſion, upon ſome particular ideas of diſtreſs which have happened to gain poſſeſſion of its attention, ſoon loſes its capacity of judging truly of things; and the veſſels of the brain becoming, at length, active, by means of the intenſe, and paſſionate, attention of the mind to the particular objects of its diſtreſs; that organ begins to acquire all the conditions of the preceding cauſe, and

the

Inſanity all thoſe ſymptoms to which that cauſe is diſpoſed to give occaſion.

3. WATER in the brain, may produce, at firſt, ſymptoms of debility, indigeſtion, ſpaſm, gloom and dejection, dizzineſs, and other nervous, and paralytic ſymptoms, reſembling thoſe ariſing from venous accumulation, and compreſſion: but as it increaſes, it may often, I think, be diſcriminated, by dimneſs and imperfection of ſight, enlargement of the pupils of the eyes, and ſtaggering, and tripping, in walking: occaſionally, by irritation, it may excite ſome degree of the firſt ſtate; and is frequently, when very conſiderable, accompanied with delirious rambling, incoherency, ſtupidity, and idiotiſm, and terminates in death.—Other preternatural ſubſtances may give occaſion to ſimilar effects; with more, or leſs, violence of delirium, in ſuch proportion as the compreſſion, and irritation, of the brain, happens to be greater or leſs, and to excite more or leſs inflammatory activity in its veſſels. But as water in the brain often originates from the *firſt* ſtate of the proximate

imate cauſe; as well as ſometimes, perhaps, from the *ſecond*, from the beginnings of which its ſymptoms do not ſeem to afford any certain diſtinction; the ſymptoms of increaſed activity of the arteries, often, for this reaſon, precede thoſe ariſing from water in the brain.

4. THE change in the intimate texture of the medullary ſubſtance of the brain, may give riſe to permanent diſorders in its natural vibrations, without ſo much deranging its operations, as to withdraw the attention of the mind from external objects; or greatly, or very generally, to confound its aſſociations: whence may ariſe dejection, and melancholy, or too great flow of ſpirits, or frequent tranſitions from one to the other, or ſtrange fancies, and deceptions, and a great variety of other notional, or maniacal, ſymptoms, intermixed with a large portion of apparently good ſenſe, and ſound reaſon:—or the alteration in its texture may be ſo great, that the procedure of its vibrations, and the aſſociations, and operations, of the mind, may be perfectly

perfectly deranged, and incoherent; and ſenſible vibrations may ſometimes recur in the abſence of their objects, ſo as to produce a perſuaſion of their actual preſence; without any ſuch injury of the brain as ſhall give occaſion to much irritation in it, or produce any extraordinary activity of the ſmall arteries, intenſe ideal delirium, ſymptoms of great compreſſion, debility of body, and tones, much torpor of the natural, or the ſmalleſt perceptible injury of the vital, functions:—or the altered texture of the brain, or the Inſanity ariſing from it, may, at intervals, excite the activity of its arterious ſyſtem; and may produce temporary fits of more violent Inſanity, in which the paſſions may be greatly agitated, the delirium may be perpetually, and intenſely, ideal, and the natural, and vital functions, may be much diſturbed.

THE *third* and *fourth* variations of the proximate cauſe of Inſanity, exiſt, I believe, much leſs commonly in the beginning of the diſorder, and give leſs frequent

occaſion to its firſt attacks, than the *firſt* and *ſecond*; of one or other of which, they are more uſually the conſequences; and are, for the moſt part, the attendants of inveterate, and incurable Inſanity. This conſideration will account for their being ſo frequently met with on opening the heads of inſane perſons, after death. And as increaſed activity of the ſmall arteries is ſo common, and compreſſion ſo inſeparable, a companion of Inſanity; we need not wonder that MORGAGNI ſhould in ſo many inſtances meet with a preternatural firmneſs, and ſolidity, of the medullary ſubſtance of the brain, as to be tempted to imagine that ſuch hardneſs of that organ was the proximate cauſe of this diſorder. And though I believe that water in the brain is rarely the original cauſe of Inſanity, and moſt frequently the attendant of an inveterate diſorder; yet I muſt confeſs that I have met with inſtances in which it has appeared to have been the ſole cauſe; and that I have ſeen it generated in a very ſhort time, in deliriums originating from a highly inflammatory ſtate of the brain.

HAVING

HAVING premiſed thus much in general concerning the proximate, or rather thoſe approaching neareſt to the proximate, cauſes of Inſanity; I ſhall now endeavour to apply what has been advanced, to the particular ſpecies; and to point out the agency of the ſeveral cauſes, in the production of each.

1. PHRENITIC INSANITY * may ingraft itſelf upon every other ſpecies, whether ideal, or notional; as may eaſily be collected from what has been ſaid upon each of them, and upon the various remote cauſes of Inſanity; and may, therefore, be in ſome way connected with all the four proximate cauſes of this diſorder: but its own proper, and peculiar cauſe, is, invariably, an increaſed, and almoſt inflammatory, activity of the ſmall arteries, with the conſequent turgeſcency, and compreſſion, of the brain. This is evident from the ſymptoms; and is demonſtrated by diſſection; ſince all, I believe, who die in

* See above, Vol. I. p. 125.

this ſtate, are found with its arteries, and veins, full of blood; and with the brain ſo turgid as to burſt from its confinement, as ſoon as the upper part of the ſkull is taken off; and though water is, likewiſe, uſually met with, it is not generally found in any large quantity, and appears to be merely the conſequence of the inflammatory ſtate of the brain. But though phrenitic Inſanity may ingraft itſelf upon all the other ſpecies, it has no neceſſary dependence, either upon them, or their cauſes, ſo far as they differ from its own; and may begin, and terminate, without being connected with any of them; ſo little truth is there in the opinion of many of the moderns, and moſt of the antients, that it is the offspring of melancholy; or nothing more than melancholy elevated to a degree of fury.*

2. INCOHERENT INSANITY, † conſiſting of four varieties, acknowledges various cauſes.

THE

* See above, Vol. I. p. 58.

† See above, Vol. I. p. 136.

THE *firſt variety*, or ARDENT incoherent Inſanity, is a near approach to, and often merely an incipient ſtate of, phrenitic Inſanity, and is uſually accompanied with inceſſant talking, or raving, either on the ſame ſubject, or with ſudden tranſitions from one ſubject to another, as images and fancies occur. It has for its cauſe ſuch an activity of the ſmall arteries of the brain, and ſuch a conſequent degree of turgeſcency, and compreſſion, as produce high ſpirits, delirious images, and a rapid flow of ideas that are very ſlightly, or not at all, connected. When it is original, and has not ariſen out of any other variety of incoherent, or out of any other ſpecies of ideal, or out of notional, Inſanity, it owns no other cauſe; but when it is derived from any of the other ſorts, this activity of the ſmall veſſels of the brain will be combined with the other cauſes from whence they took their riſe. In the former caſe it is uſually curable, and often with eaſe, and celerity; in the latter, it is more or leſs ſo, according to the nature, and duration, of the original cauſe.

THE

THE *ſecond variety* of incoherent Inſanity, which I have termed FLIGHTY, conſiſts in that kind of active ſtate of the brain which occaſions flightineſs of imagination, without any tendency to a phrenitic ſtate; and exhibits ſudden tranſitions, and rapid flights, of fancy. It depends immediately on ſuch activity of circulation through the ſmall arteries of the brain, as excites lively vibrations, in quick, and unconnected, or very ſlightly connected, ſucceſſions, and a great flow of ſpirits; but is without that intenſeneſs, and not productive of that great turgeſcency, which occaſion phrenitic Inſanity; and is unaccompanied with that earneſtneſs, and ſolicitude of mind, which tend to introduce it. It may ariſe out of maniacal, or out of whimſical, flighty, or other ſpecies of notional, Inſanity; and its immediate cauſe may be united with the ſecond, third, or fourth proximate cauſe; but moſt frequently I think, with the fourth; and leaſt ſo with the third, which ſeems to be more diſpoſed to ſtupify, than to enliven the imagination.

THE

THE *third variety* of incoherent Inſanity, which peculiarly merits the name of UNCONNECTED, ariſes out of ſuch a ſtate of the brain, as produces, perpetually, trains of apparently unconnected, or very ſlightly connected, ideas; with calm, and, not inceſſant, but frequent, incoherent talking, or muttering; without the ſmalleſt tendency to a phrenitic ſtate, or any flightineſs of imagination; and is nearly related to the third ſpecies of idiotiſm, * from which it is chiefly diſtinguiſhed by occaſional indications of ideal delirium. This variety always, I imagine, owes its exiſtence to the fourth proximate cauſe of Inſanity; and is rarely, if ever, capable of receiving a cure. It ſeems never to be original, but alway to ſucceed ſome other ſpecies of ideal, or notional Inſanity.

IN the *fourth* and laſt *variety*, there is a great defect of memory, occaſioned by ſuch a ſtate

* See above, Vol. I. p. 83.

ſtate of the brain as produces an almoſt total privation of thought, or a fixed and ſenſeleſs uniformity, of the mental operations. It is, therefore, of two ſorts, and is either STUPID and ſenſeleſs, or ABSENT and muſing: the firſt being more eſpecially accompanied with great defect of memory, and reſembling a good deal the delirium of old age; and the ſecond with a ſluggiſhneſs of the mental faculties, and an inability to attend to more than one object at once, and equal inability to remove the attention from one object to another. This variety ſeems to originate from a great compreſſion, or great compactneſs and ſolidity, of the brain, and ſometimes from both. In a few inſtances, I believe, it owes theſe conditions to the ſecond proximate cauſe; in which caſe, though obſtinate, and of long duration, it is ſometimes cured: but more frequently it ſeems to be incurable, and to derive its origin from the third, or fourth, proximate cauſe, or from both united.

3. MANIACAL

3. MANIACAL INSANITY,* growing out of every other ſpecies of Inſanity, may originate from any of the numerous cauſes of this diſorder; but being an approach to a phrenitic ſtate, ſeems ever to be accompanied with that degree of turgeſcency, which readily excites a too great activity of the brain, and too intenſe ſenſitive vibrations, in the abſence of the objects to which they relate; and which, in proportion, as it is greater, or leſs, gives occaſion to maniacal ſymptoms, which are more, or leſs, perpetual, and intenſe, and approach to, or recede from, thoſe of phrenitic Inſanity.

WHEN maniacal Inſanity ariſes from the *firſt* cauſe only, without the participation of any of the others, it may be violent, and uninterrupted, and may nearly approach to phrenitic Inſanity; but the activity of the brain, having no inveterate and chronic cauſe, may for the moſt part be eaſily appeaſed, and the Inſanity readily overcome, by proper medical

* See above, Vol. I. p. 144.

treatment.—When from the *ſecond* cauſe, it may be leſs violent, and be interrupted by longer intervals; but, ariſing from a more fixed and obſtinate cauſe, will uſually give way with more difficulty, and yield only to repeated attacks, and long continued efforts.—The *third* and *fourth*, cauſes, afford but little hope of a perfect cure; ſince, though the maniacal ſymptoms, in the former caſe, may have conſiderable intermiſſions, and ſeem, on ſuch occaſions, entirely to ceaſe, the ſymptoms of mental ſtupidity, nervous imbecillity, and bodily decay, will ſeldom terminate but in perfect idiotiſm, and premature death; and though, in the latter caſe, there may be very long intervals, and good bodily health, the operations of the mind will rarely be completely reſtored, returns of a high degree of delirium will be always to be apprehended, and an incurable, but often healthy idiotiſm, may commence, and remain during life, which may not unfrequently, under the attentive guardian ſhip of careful perſons, be prolonged for a courſe of years, and only terminate with the natural period of human life.

When

WHEN the maniacal delirium has long intervals, and extends only to one, or a few objects, the inſane perſon commonly enjoys a great degree of rationality, and is frequently even uncommonly acute, relative to ſuch ſubjects as have no connection with the object, or objects, of delirium: as was ſingularly exemplied in the elegant and ſublime TASSO,* and in the learned and ingenious HARRINGTON.† In theſe caſes, the brain being in an irritable, and ſuſceptible ſtate, and liable to be ſtrongly affected by ſome certain ideas, and notions, dwells upon them, whenever they occur, with peculiar ardour and intenſeneſs, which rapidly increaſes the oſcillatory motions of the ſmall arteries of the brain, and the activity of its vibrations; and by ſuch intenſe attention, and accelerated action, the ſenſitive vibrations of imagination aſſume a degree of vivacity

* See above, Vol. I. p. 109, and 155.

† See above, Vol. I. p. 149.

to thoſe excited by the real preſence of their object, and the mind is deluded into a belief of the actual, and external, exiſtence of its own internal fancies, and reveries.

4. As SENSITIVE INSANITY * much reſembles the maniacal, and often borders very nearly upon the phrenitic; from the former of which it is chiefly diſtinguiſhed by the relation of the delirium to the form, ſubſtance, or other ſenſible qualities, or contents, of the body of the inſane perſon; and from the latter by the violence of the delirium; and the degree of inflammatory activity of the veſſels of the brain; its cauſes muſt be ſimilar to thoſe of maniacal, and phrenitic Inſanity; and approach nearer to the one, or to the other, accordingly as its ſymptoms may happen moſt to reſemble thoſe of the one, or the other; and may vary, in other reſpects, in the ſame manner as I have above ſuppoſed the cauſes of thoſe ſpecies of Inſanity to vary.

THE

* See above, Vol. I. p. 158.

The ſymptom of ſenſitive deluſion may partly originate from the uſual cauſes of hypochondriacal feelings, and nervous debility, exiſting out of the brain; which moſt commonly ariſe from exhauſtion, or from a diſordered ſtate of the alimentary canal: and partly from the great, and inordinate, affection of the brain; which may not only give occaſion to intenſe delirium, and to ſenſitive miſapprehenſion, from the mere force of a deluded imagination; but may ſo diſturb the ordinary, and natural functions of the brain, and ſo diſorder the nerves in conſequence of ſuch diſturbance, as to give riſe to preternatural, and deluſive ſenſations; and thus, in both ways, may give occaſion to Inſanity.

5. Delusive Insanity,* the firſt ſpecies of *notional*, being always a near approach to ſome ſpecies of ideal Inſanity, muſt, in all caſes, be accompanied by a conſiderable degree of compreſſion, compactneſs, or firmneſs, of the brain, and, in many, with no inconſiderable

* See above, Vol. I. p. 172

able activity of its ſmall arteries. But as its intenſeneſs is exceedingly various, and it is often, at intervals, which are ſometimes pretty long ones, ſo diminiſhed, as ſcarcely to afford any remaining traces of Inſanity, the degree of compreſſion, and compactneſs, muſt be proportionably various in the ſame individual, and poſſeſs, in different perſons, the differences of a very extenſive ſcale: and the activity of the ſmall arteries of the brain, both in the ſame, and in different individuals, muſt ſometimes riſe very high, at others be extremely low, and not unfrequently ceaſe altogether.

As it may ariſe out of every other ſpecies of notional Inſanity, or be the mere relicks of ſome ſpecies of ideal; and is often no other than an incipient ſtate, or the mere termination of phrenitic Inſanity: ſo it may originate from any of the four proximate cauſes, though it can ſeldom ariſe to any great height without being indebted to ſome degree of the firſt.

When it derives its exiſtence from the *firſt* proximate cauſe only, which may be the ſole cauſe

cauſe of either variety, it not only nearly borders upon ideal, but is often upon the very confines of the phrenitic ſtate. But if, in this caſe, it be attacked with vigour; and originate from no very obſtinate, and formidable, remote cauſe; it may, for the moſt part, be ſpeedily ſubdued, before the brain receives any material injury; and may afford a fair proſpect of a permanent cure.

THE *ſecond* proximate cauſe is more obſtinate, but will commonly yield to the perſevering efforts of medical ſkill. It is capable of giving occaſion to either the *firſt* or the *ſecond variety* of deluſive Inſanity, and to every degree of them, as the circumſtances of compreſſion, and irritation of the arterious activity, and the concomitant intenſeneſs of delirium, and the nature of the remote cauſe, may happen to vary; but never can approach to a phrenitic ſtate, till the compreſſion is become very conſiderable, the delirium intenſe, and a great degree of action has been by theſe means excited in the ſmall arteries of the brain.

THE *third* proximate cauſe may, by ſimilar degrees of compreſſion, and irritation, and

other

other correſponding circumſtances, produce ſimilar effects: but affords a leſs favourable proſpect of a happy termination: is often accompanied with paralytic ſymptoms; frequently reduces the hopeleſs ſuffer in a ſhort time to a ſtate of idiotiſm; and though ſometimes ſlow, is more frequently rapid, in its progreſs; and rarely admits of a long ſtate of ſuffering; or makes a laſting ſpectacle of human degradation, and infirmity, by a protracted life of drivelling imbecillity.

The *fourth* cauſe, though leſs violent in its effects, leſs hoſtile to life, and rarely ſo totally ſubverſive of ſenſe and intelligence, as the *third*, is obſtinate, and formidable, unleſs while recent, and affords but an indifferent proſpect of a perfect reſtoration to ſoundneſs of mind. Sometimes, when the change in the texture of the brain is very conſiderable, or the remote cauſes are ſuch as excite much activity of mind, the intenſeneſs of the delirium may ſo excite the activity of the ſmall arteries, as to induce phrenitic Inſanity; which, ſubſiding, often leaves the brain in a worſe

worſe ſtate of injured texture; and the Inſanity, at length, frequently terminates in perfect idiotiſm, or exceſſive, fixed, and incurable, deluſion.

WHAT circumſtances, and conditions, may determine deluſive Inſanity to be of the *firſt*, or *ſecond*, variety; or may favour the introduction of any of the ſpecies of ideal Inſanity, may eaſily be collected from what has juſt been obſerved concerning the proximate cauſes of thoſe ſpecies.

6. In all the degrees of FANCIFUL INSANITY * the tones, and vibrations, of the brain, are lively, and the mind is in too wakeful, and active, a ſtate. There is that degree of irritability in the medullary fibres of the brain, and of the nervous power by which they are incited, and agitated, which renders them tremblingly alive to action, and eagerly ſuſceptible of quick, and animated, vibrations; and which fits them for the excitement

* See above, Vol. I. p. 193.

of vivid trains of ideas by the gentleſt impulſe of exciting cauſes; and diſpoſes the vivid trains, thus excited, to follow, in rapid ſucceſſion, by the ſlighteſt connections, and the moſt remote aſſociations.

HENCE it is that the fancifully inſane are talkative, quick, lively, acute, ingenious, witty, brilliant, and ſometimes ſublime.

IN the loweſt degree of this ſpecies of Inſanity, there is a certain activity of the arterious ſyſtem of the brain, which does not exiſt but in an active ſtate of the mind; and which is prone to become, by the continued action, and reaction of the mind, and brain, mutually upon each other, and the reciprocal excitement of each others exertions, inſenſibly more and more rapid; till, by degrees, the oſcillations, and turgeſcency, of the veſſels of the head, ſo increaſe, as to work up the mind, and brain, to a degree of activity and excitement, often little ſhort of, and not uncommonly terminating in, actual ideal delirium; which does not uſually ſtop here; but

but, proceeding from one degree to another, paſſes, from the firſt advances beyond the line of fanciful, though every intermediate ſtage, to the utmoſt extreme of phrenitic Inſanity. And, as in its lower degree the diſorder has rather the appearance of uncommon ſenſe, and acuteneſs of parts, than of Inſanity; ſo in the higheſt, the exceſſive quickneſs of imagination, and rapidity of tranſition from one aſſociation to another, perfectly deſtroy the appearance of coherency, and aſſume the form, and character, of the moſt ſenſeleſs, and idiotical raving.

IT is obvious that this ſpecies of Inſanity is more immediately connected with the *firſt* proximate cauſe, and depends on ſuch an active ſtate of the ſmall arteries of the brain, and ſuch a degree of turgeſcency and compreſſion, as are adapted to give livelineſs, and vivacity, to the imagination, and to excite, in a rapid ſucceſſion, inceſſant trains of ideas, which often ſucceed each other by the ſlighteſt connections.—It may proceed, however, more remotely, from any of the other proxi-

mate cauſes, whenever they happen to give occaſion, as they not unfrequently do, to ſuch a degree of excitement in the vibrations of the brain, and the oſcillations of its capillary arteries, as are here deſcribed as neceſſary to the production of this ſpecies of Inſanity.

7. WHIMSICAL INSANITY * is occaſioned by ſuch a degree of compreſſion, and firmneſs of the brain, as is adapted to render it too irritable; to excite, in a conſiderable degree, uncomfortable nervous feelings, a general gloom of mind, timidity and ſuſpicion; to give frequent recurrency, and vigour to vibrations of ſome particular kinds; and thus inceſſantly, and intenſely, to engage the attention of the mind to ſome particular objects; and, by fixing and limiting its views, to give occaſion to a variety of unnatural, but ſtrong, aſſociations; and ſo to confound the judgment, as to give to the moſt falſe and abſurd, the credit of the moſt juſt, and true.

Theſe

* See above, Vol. I. p. 199.

These effects are greatly promoted by a long series of habitual low spirits, by constitutional, or acquired, irritability of passion, fancifulness of imagination, and unsoundness of judgment. This species of Insanity is often, therefore, the disorder of ingenious, and always, perhaps, of weak, timid, and little, minds.

WHEN it is in the extreme, it often borders upon, or is connected with, fanciful Insanity; but is more commonly related to the gloomy varieties of pathetic Insanity, out of which it frequently proceeds; and it is sometimes pure, unmixed, and original. As it is, not unusually, so slight, as scarcely to distinguish the insane from the common ranks of mankind; so, on the other hand, as the compression, or compactness, and irritation, increase, as passion unites itself to the other causes, and the attention becomes fixed, and intense, it occasionally rises through all the intermediate degrees of notional, to the highest pitch of ideal, and phrenitic, Insanity.

As

As the mind, under the influence of whimſical, is in a ſtate of leſs activity, and excitement, than in *fanciful Inſanity*, ſo this ſpecies is leſs dependent on the *firſt* proximate cauſe; from a low degree of which, however, it ſeems ſometimes to originate; and to which it ſometimes gives occaſion; and then, eſpecially, approaches to fanciful Inſanity, and ſometimes paſſes on to the maniacal, and even to the phrenitic. But more frequently it ſeems to proceed from the *ſecond*; not uncommonly from the *fourth*; and very rarely from the *third*.

8. Of IMPULSIVE INSANITY * I have diſtinguiſhed *four varieties*, all of which are accompanied with ſome degree of increaſed activity of the ſmall arteries, and of the nervous filaments, or of whatever it is that vibrates, excites ideas, and conveys impulſes, in the medullary ſubſtance, of the brain: and this increaſed activity is greater or leſs; is

* See above, Vol. I. p. 207.

is exerted continually or at intervals; and is connected with high or low ſpirits; according to the nature, and intenſeneſs, of the Inſanity.

THE *firſt variety* often originates from dejection of ſpirits, or from ſome one of the various kinds of pathetic Inſanity; which, ſuddenly diſappearing, are ſucceeded by unexpected chearfulneſs, and an imaginary amendment; a change, however, which, in reality, only indicates an increaſe of the diſorder of the brain, and the commencement of a more than ordinarily active ſtate of the oſcillations of its ſmall arteries, and of the vibrations of its medullary ſubſtance. At other times it comes on almoſt immediately, and with apparently, little or no antecedent Inſanity; with ſcarcely any preceding dejection, or the obvious influence of any conſiderable paſſion; and is then uſually the ſymptom of an incipient ideal Inſanity. In the latter caſe, it is generally owing to the *firſt* proximate cauſe alone. In the former, commonly to the *ſecond*; ſometimes, perhaps, to the *third*; and not very rarely to the *fourth*.

IN

In the *second variety* there is great irritability of mind, and brain; derived from an habitual, and chronic, disorder of that organ; which owes its birth to injudicious education, and the early indulgence of froward inclinations, and perverse passions; to hypochondriacal, and other nervous complaints; to some sorts of pathetic Insanity; to painful disorders of the head; and to whatever can occasion a chronic accumulation of fluids in the brain, and so distemper it, as to give rise to great nervous irritability, susceptibility of violent passion, strong and permanent resentment, obstinacy of temper, impatience of contradiction or restrain, and an irresistible propensity to pursue the impulses of the present moment. It is always accompanied with the *first* proximate cause, when considerable; but may originate from any of the other three; and especially from the *second*, and *fourth*. When violent, it frequently terminates in some species of ideal Insanity. This, and the *first variety*, are often the causes, and not uncommonly the consequences, of excessive drinking: and, in either case, they are in general

general eaſily cured; but exceedingly apt to return; till by repetition, and the baneful influence of intoxication, it is commonly rendered incurable, and uſually terminates in ſome ſpecies of ideal Inſanity, or ſinks into perfect idiotiſm.

THE *third variety* frequently occurs in the female ſex; is the offſpring of great nervous irritability; is always immediately excited by the *firſt* cauſe; moſt commonly, I believe, originates from the *ſecond*, and ſometimes from the *fourth*. It yields, for the moſt part, readily to medicine; but is very apt to return. Though uſually the diſorder of the fair ſex, it ſometimes exiſts in the other; and is even an occaſional ſymptom of maniacal, or phrenitic, Inſanity.

THE *fourth variety* is a very near approach to phrenitic Inſanity; may ſucceed any of the other varieties, and may owe its exiſtence to the ſame cauſes; but always immediately depends upon the *firſt* proximate cauſe; and ſometimes, perhaps, upon that only:

and is more or leſs eaſily curable, according to its permanency, the violence of its ſymptoms, its connection with any other ſpecies of Inſanity, the nature of that Inſanity, and the nature of the cauſes from which it may have ſprung.

9. SCHEMING INSANITY, * of which the *varieties*, ſo far as reſpects its object, are innumerable, may be diſtinguiſhed, with a view to its origin, into *two ſorts*.

SOMETIMES it takes its riſe from intenſe application of mind to, and inceſſant and uniform brooding over, ſome one object; which has taken hold of the imagination, and gained the affection, as eſpecially, if not ſolely, worthy of attention, and purſuit; or for the attainment of which the qualifications, and abilities, of the purſuer, are peculiarly, and happily, adapted.—Or it may grow out of ſome other ſpecies of Inſanity, and ſpring from the ſame cauſes from which they derived their exiſtence.

IN

* See above, Vol. I. p. 226.

In the *former* case it receives its beginning most commonly, from the *second* cause of Insanity; but sometimes, perhaps, from the *fourth*; and owes its increase, animation, and impetuosity, to the *first*: and, in the *latter* case, from any of the causes from which they originated: but, especially from the *second*; to which, when it becomes violent, is added the *first*.

It is peculiarly subject to intermissions; either in the scheming only; on which occasions it deviates into *self-important*, *impulsive*, *whimsical*, *fanciful*, *delusive*, or into some variety of *pathetic* Insanity; according to the nature, or combination, of its causes; or of the Insanity altogether. When the intermission is complete, I attribute it to the *second* only, or to the *first*, and *second*, causes united. When it is imperfect, and some degree of Insanity, however different in its kind, forever remains, I suspect such obstinacy of disorder to arise from the *fourth*.

IT is a frequent prelude to maniacal and phrenitic Infanity; to which it ſometimes makes the moſt rapid advances.

10. VAIN, or SELF-IMPORTANT INSANITY,* uſually proceeds from a conſiderable degree, and inveterate ſtate of the *fourth* cauſe, and is incurable: and is then not only permanent, but pretty uniform; and has few deviations, rarely any great amendment, and no perfect intermiſſions. But ſometimes it is leſs conſtant, and unyielding, and has longer or ſhorter, intermiſſions; though it is ſtill liable to returns, which are, not uncommonly, pretty frequent, and ſeldom leaves the mind, in the intervals, in a perfectly ſound, and rational, ſtate. In this caſe it may be owing in part to the *fourth* cauſe: but is probably more indebted to the *ſecond*; which giving way, in time, to proper medical exertions, leaves the mind in a ſtate which cannot juſtly be conſidered as ſound; and yet ſo nearly approaches to ſanity, that it ought, rather, perhaps, to be termed unſteady,

* See above, Vol. I. p. 217.

unſteady, than inſane. When this leſs obſtinate, but commonly more violent, ſort of ſelf-important Inſanity, is at its height, it always aſſociates, with the *ſecond*, and *fourth* cauſe, ſome portion, and often a very large one, of the *firſt*; and frequently terminates in ſome ſpecies of ideal, and often rifes into a very high degree of phrenitic, Inſanity.

11. IN HYPOCHONDRIACAL INSANITY,* —(a) the alimentary canal, and the whole apparatus of the inſtruments of chylification, are, ſometimes, the parts that firſt ſuffer; and the head is only affected in conſequence of the diſorder of theſe important organs. How complaints ſo remote from the head, tend to affect the brain, and to bring on Inſanity, has already been explained.† —(b) Often, however, the head ſeems to be primarily affected: and it is always, I believe, very ſenſibly, and conſiderably, diſordered, before

* See above, Vol. I. p. 220.

† See above, p. 189, 218, and 232, of this Volume.

before the imagination, and underſtanding, are very obſervably injured. In theſe caſes, the nervous, and other ſymptoms, affecting other, and diſtant, parts of the body, are only the conſequences of the diſordered ſtate of the brain.—(c) In other caſes, the head, and the reſt of the body, ſeem to ſuffer at the ſame time, and from the ſame common cauſe: as when the diſorder proceeds from much and fatiguing diſſipation, and late hours,* from a ſtudious and ſedentary life,† or from habitual exceſſes in eating,‡ drinking,§ or venery.‖—In all caſes, however, the nerves ſuffer much; and uncomfortable, and diſtreſſing,

* See above, p. 325, of this Volume.

† Ib. p. 293.

‡ Ib. p. 238

§ Ib. p. 243.

‖ Ib. p. 181, and 376.

diſtreſſing feelings, are a predominant ſymptom: and ſometimes the fleſh inſenſibly waſtes, and the ſtrength decays; and in moſt inſtances the ſkin is harſh and clammy; or harſh, dry, and withered; and not uncommonly ſeparates in ſcales, or fall off in a ſcurfy powder.

(a) When the diſeaſe begins in the alimentary canal, and the organs of chylification, the Inſanity which follows is probably the immediate effect of the *ſecond* cauſe; which will naturally be generated by the diminution of tones, and dejection of ſpirits, unavoidably reſulting from the diſordered ſtate of the viſcera; and the anxious, deſponding, and unceaſing attention of the mind, to the uncomfortable feelings thus excited in the body; and the conſequent increaſed determination of blood to the brain; while its recurrence through the veins, if not diminiſhed, is not increaſed, with the increaſed action of the capillary arteries.

(b) When

(b) When the head is primarily affected, as by intenſe thinking, habitual paſſions, or ſome other immediate cauſe of diſorder in the brain; the Inſanity is probably, in like manner, the immediate effect of the *ſecond* proximate cauſe, or an accumulation of blood in the veins, and ſinuſes; either alone; or united with the *third*; or with the *fourth*; or with *both* at the ſame time.

(c) When the head and body ſuffer together, and eſpecially by exceſſive drinking, it is probable that all the *four* cauſes frequently unite their influence, in diſordering the underſtanding. And when the Inſanity is accompanied by tremor, giddineſs, unſteady walking, enlargement of the pupils, or a vacant, and ſtaring appearance of the eyes, as it ſometimes is, I ſuſpect ſome degree of the *third* to be principal cauſe concerned.

The diſordered ſtate of the nerves which they all produce; and the languor, depreſſion of ſpirits, ſpaſms, and various painful feelings, which flow from that ſource; and eſpecially

cially when aided by ſome accidental circumſtance, which may be fitted to impoſe upon an infirm, prepoſſeſſed, and dejected mind; eaſily lead to the peculiar fancies of the hypochondriacally inſane.

How this ſpecies may degenerate into *pathetic Inſanity*, may eaſily be underſtood from what has before been ſaid, in treating of the paſſions * as remote cauſes of Inſanity.

12. Of the proximate cauſes of PATHETIC INSANITY † I ſhall only ſpeak in general; without attempting to point out their ſeveral variations, and combinations, correſponding to the ſeveral differences of its numerous varieties: or to deſcribe the manner in which the remote cauſes give occaſion to them: which, indeed, has been already done, in ſome meaſure, in treating of the paſſions concerned in the production of Inſanity.‡

* See above, p. 328 of this Volume.

† See above, Vol. I. p. 235.

‡ See above, p. 328 of this Volume.

THIS ſpecies may originate—(a) from peculiarity of temper, and diſpoſition, of mind, or from the habitual indulgence of ſome particular, and eſpecially of ſome painful paſſion; as malevolence, diſcontent, anxiety, fretfulneſs, peeviſhneſs, avarice, and other diſpoſitions, and paſſions, of a like nature:—(b) from the accidental excitement of ſome violent paſſion, as fear, terror, grief, or the like:—(c) from ſome bodily diſorder affecting the brain; as the ſuppreſſion of the menſes, or milk, the repulſion of the gout, or of cutaneous eruptions, the drying up of old ulcers, or fevers of various kinds; and producing an Inſanity characteriſed by ſome particular paſſion:—or (d) from ſome other ſpecies of Inſanity.

(a) AS the varieties of pathetic Inſanity are almoſt all accompanied with diſtreſs, dejection, anxiety, pain, agitation, or reſtleſs of mind; and are apt to terminate in the deepeſt melancholy; and, in the impetuoſity of impatience, or the agony of deſperation, to plunge the unhappy ſufferer into the horror, and guilt, of ſuicide; it is obvious that the temper

temper and diſpoſition of mind, or the paſſion habitually indulged, from which they originate, muſt uſually be of the anxious, peeviſh, or gloomy kind. How ſuch a temper, and ſuch paſſions, may introduce Inſanity has already been ſhown, in treating of the paſſions. And as they all act in part, by exciting a determination of blood to the head, it is probable that they occaſion an accumulation of it in the veins, and ſinuſes, of the brain; and produce Inſanity by the *ſecond* proximate cauſe.

(b) Pathetic Inſanity ariſing from the ſecond remote cauſe, is, like the former, the offspring of the *ſecond* proximate cauſe: but as it is uſually more violent in its ſymptoms, and more rapid in its progreſs; and often makes haſty advances to the very extreme of phrenitic Inſanity; it is ſeldom long before it calls in the aid of the *firſt*.

(c) In like manner pathetic Inſanity from the third remote cauſe, while it is indebted to the *ſecond* proximate cauſe for its origin,

ſoon receives increaſe, and is often ſpeedily exalted into phrenitic Inſanity, by the *firſt*: and when it derives its beginning from a fever, it is, probably, frequently aggravated by the *third*, or *fourth*, proximate cauſes; and in ſuch caſes is very often either incurable, or leaves behind it ſome other incurable diſeaſe. When owing to the *ſecond* only, it is uſually curable.

(d) Pathetic Inſanity from the fourth remote cauſe, may either ſucceed ſome ſpecies of notional, or of ideal, Inſanity. In the former caſe it is uſually on the increaſe, and continues growing in violence till it riſes to phrenitic Inſanity. In the latter caſe the ideal ſymptoms, which were at firſt, perhaps, violent, and even phrenitic, gradually decline, and at length diſappear; and leave, in their ſtead, ſymptoms of pathetic Inſanity only. When it ſucceeds ſome other ſpecies of notional Inſanity, it probably acknowledges moſt frequently the *ſecond* proximate cauſe; to which, when it is violent, and on the increaſe, is added ſome degree of the *firſt*: and when it remains after ideal Inſanity, it is ſometimes, perhaps, alſo con-

connected with the *third*, or *fourth*; and is then, for the moſt part, either incurable, or leaves behind it other incurable diſeaſes.

13. In treating of APPETITIVE INSANITY, * I ſhall pay no particular regard to the diſtinction into *Satyriaſis*, and *Nymphomania*; the differences of which, depending upon the differences of ſex, need no explanation: but ſhall remark two very ſtriking, and eſſential, variations, which may be obſerved in this diſorder, and are to be met with in either of the ſexes. For appetitive Inſanity, whether in males or females, appears ſometimes to ariſe from the ſtate of the parts by which they are diſtinguiſhed; and ſometimes to grow out of ſome other ſpecies of Inſanity.—In the *former* caſe, it ſeems to ſpring ſometimes from the diſordered, or preternatural, ſtate of thoſe parts, without the previous ſtimulation of mental turpitude; and ſometimes from the depraved indulgence of laſcivious ideas. And, under both circumſtances, the Inſanity is induced

* See above, Vol. I. p. 211.—See alſo p. 261—268 of this Volume.

duced in consequence of the perpetual employment of the mind about the objects of irregular desire; * is, therefore, to be attributed to the *first* proximate cause; and usually makes hasty advances to a phrenitic state.--In the *latter*, the lascivious ideas, and disorderly propensities, seem to be merely, or chiefly, the result of the delirious state of the brain; and of course, the proximate cause will vary according to the nature of the Insanity which gave occasion to the existence of such ideas, and propensities.

HAVING thus taken a review, imperfect indeed, and limited, but which I hope will be found to throw some practical light upon the subject of the several species of Insanity; and having pointed out the apparent relations of each species to the four variations of the state of the brain which seem to approach the nearest to the proximate causes; I am naturally led to remark certain common, and regular,

* See above, p. 265 of this Volume.

gular, changes, which occur in many caſes of Inſanity, and which ſeem to admit of a ready explanation from what has been ſaid above relative to this ſubject.

I HAVE often obſerved, in certain caſes of Inſanity in which the patient has experienced frequent returns of the complaint; and alſo in ſome others; that the firſt appearance of diſorder has been no more than a change from natural evenneſs, of ſpirits, or chearfulneſs, to unuſual dulneſs, ſilence, muſing, and fondneſs of retirement and ſolitude; which have been ſucceeded, as the diſorder increaſed, by great dejection, diſtreſs, and melancholy; when, at once, the unhappy ſufferer has become chearful, has ſeemed uncommonly ſenſible, and rational, and has appeared to be ſuddenly, and unexpectedly, getting well. Soon, however, this agreeable proſpect has vaniſhed; he has grown high ſpirited, fanciful, ſcheming; he has been hurried about by every impulſe of a wayward imagination, or of unreaſonable paſſion; and while, being freed

freed from his diſtreſs of mind, he has fancied himſelf well, his anxious friends have lamented the increaſe of his diſorder, and have been alarmed at the quick progreſs which they have now become ſenſible, it was making to maniacal, and phrenitic, Inſanity. And, when at length this violence has given way, the patient has appeared firſt more calm, and rational; then dejected; and this ſtate of dejection has frequently continued for a long time, gradually retiring, before he has been perfectly reſtored to his right mind.—The firſt, and melancholy ſtate, ſeems to be owing to a beginning determination of blood to the brain, and a gradual accumulation in its veins, and ſinuſes. When this accumulation, and compreſſion have by their irritation, begun to excite accelerated oſcillations in the ſmall arteries, and vivid vibrations in the medullary ſubſtance, of the brain; the uneaſy gloom now giving way to more lively ideas, the perſon ſeems, at firſt, to be getting well; till the increaſed action of the arteries, and undue excitement of the brain, induce the higher, and

more

more violent, degrees of delirium. And when, theſe ſubſiding, the former ſtates of the brain ſucceſſively, but in an inverted order, recur; the ſame appearances return, till the diſorder of the brain, entirely ceaſing, leaves the patient again reſtored to his right mind.

SIMILAR to this has been the ſucceſſion of ſymptoms, which I have frequently obſerved, in certain caſes of highly maniacal, and phrenitic, Inſanity, which were ſubject to irregular paroxyſms, and remiſſions; were incurable; and were, apparently, attended with a combination of all the four conditions of the proximate cauſe.—On the approach of a paroxyſm, they became exceedingly dull, and ſtupid: after a time they began to be more lively, and in ſome degree calm, and ſenſible: this apparent amendment was ſoon ſucceeded by violent phrenitic Inſanity; which ſubſiding, they became again more calm, and ſenſible; then dull, and ſtupid; and in the end ſettled into the uſual courſe of their ordinary, and mild, maniacal delirium.—

The firſt dull, and ſtupid ſtate, appeared to ariſe from a conſiderably increaſed compreſſion of the brain; and was attended with a remarkably ſlow pulſe; when the chearfulneſs commenced, the velocity of the pulſe began to quicken; became rapid during the phrenitic delirium; ſubſided as the delirium ſubſided; till, on the return of the ſtupidity, it became once more exceedingly ſlow; and when the Inſanity was at laſt ſettled in its common maniacal ſtate, roſe again to its ordinary ſtandard.

THESE remarks are founded upon repeated experience, and accurate obſervation; and appear to me, to throw great light upon the proximate cauſes of Inſanity.

SECTION

SECTION VI.

Of the PREVENTION *of* INSANITY.

IN treating of the prevention of Inſanity, notwithſtanding the great importance of the ſubject, I ſhall endeavour, as much as poſſible, to avoid minuteneſs; partly, that the ſize of the preſent volume may be confined within reaſonable limits; and partly, becauſe a due attention to what has before been ſaid, concerning the ſeveral cauſes of Inſanity, will lead to a proper knowledge of the principal dangers to be avoided, and obſervances to be practiſed, in order to its prevention.

TO defend ourſelves, as much as may be, from the attacks of an enemy, ſo hoſtile to our comfort, and ſo ſubverſive of the dignity of the human character; it is fit that every

man ſhould be rationally, and diligently, but not anxiouſly, attentive, to the ſtrict obſervance of whatever may tend to preſerve, or regain, the health, and to contribute to the perfection of his whole nature, bodily and mental. This opens to our proſpect a large field of ſpeculation, and practive. I ſhall confine myſelf to the following views.

1. TEMPERANCE in food, drink, ſleep, and the indulgence of the venereal appetite.

2. EXERCISE.

3. THE due regulation of the PASSIONS.

4. ATTENTION to the operations of the IMAGINATION; and care to check its propenſity to too great ACTIVITY.

5. AN aſſiduous diligence in the improvement of the *reaſoning faculties* of the *mind*; and a watchful avoidance of the various cauſes of its IMBECILLITY.

6. THE careful avoidance of too *long* continued,

tinued, too *intenſe*, and too *uniform*, THINKING; and of exceſſive WATCHING.

7. THE avoidance of the other occaſional cauſes of Inſanity; ſo far as they may, by our care and diligence, be avoided.

8. *Rational views* of GOD and RELIGION; free from ſuperſtition, enthuſiaſm, or deſpondency: and a conſcientious, and chearful, performance, of the duties which religion preſcribes.

1. THE beſt rule of TEMPERANCE in FOOD is, that it be taken in ſuch quantity, as to leave little, or no, fulneſs, after eating; as that the body ſhall feel refreſhed, and not oppreſſed, and the mind lively, and chearful and fit for the performance of all its operations, if requiſite, with eaſe and alacrity; that dinner be the principal meal; and that ſupper either be taken very early, or be very light.

WITH regard to *drink*, temperance is neceſſary in ſmall liquors, as well as in ſtrong.

For

For though the former cannot injure by inebriation; they are capable, when uſed immoderately, or injudiciouſly, to do much miſchief by their quantity, and by their other ſenſible qualities. Small cold liquors ſhould never be drunk, but with the greateſt caution, when we are warm with exercise; and not at all when we are very hot; and large draughts ſhould always be avoided. If drunk by perſons who are very hot, they frequently bring on inflammatory, and other violent diſeaſes; which, often either end in death, or leave behind them complaints which remain for life: and may prepare the way for Inſanity, as well more immediately by giving occaſion to the delirium of a fever, or by otherwiſe violently diſordering the brain; as more remotely, by ſuch permanent injuries of the brain, of other kinds, as may proceed from the violence of theſe original diſorders.

How

How *warm diluting liquors* * may lay the foundation of Infanity; and how *wine*, † and other fermented, or ſpirituous, liquors, may produce the ſame effect; has already been explained in treating of the remote cauſes.

Warm diluting liquors ſhould never be drunk in large quantities; unleſs with ſome particular views, and under ſuch particular circumſtances as may render copious diluſion with ſmall, warm fluids, proper in the cure of a diſeaſe: and ſhould never be drunk warmer than new milk, or the human blood while yet flowing in the courſe of circulation.

Wine ſhould either be avoided altogether; or when that is not very practicable, or not very prudent, ſhould always be taken in ſuch moderation, as not to produce intoxication; nor flufhing in the face; nor drowſineſs; nor great ſpirits on the one hand; nor dulneſs, and

* See above, p. 237, of this Volume.

† See above, p. 243, of this Volume.

and depreſſion on the other. Two or three glaſſes, twice a day, ſhould rarely be exceeded, even by ſuch as have not the ſmalleſt reaſon to be apprehenſive of Inſanity; and one glaſs will in moſt caſes, where no great exerciſe is made uſe of, be quite ſufficient. But I would adviſe ſuch as have any particular reaſon for guarding againſt Inſanity; unleſs in caſes of debility, in which a ſmall quantity of wine is found uſeful as a medicine; to abſtain from vinous, and ſpirituous liquors, entirely: or, at moſt, to drink nothing ſtronger than ſmall beer.

TEMPERANCE with regard to *ſleep*, will be beſt regulated by the age, conſtitution, and experience, of individuals. In general, I believe, ſleep is too much indulged; and that there is little need for caution againſt unreaſonable abſtinence from ſo neceſſary a refreſhment; which, were it common, would demand attention, as perhaps the more dangerous extreme of the two. How a defect of ſleep may be favourable to Inſanity, has been explained

explained before.* And that its exceſs ſhould have a tendency to promote the production of it, may eaſily be deduced, as well from the effects, as from what has above been ſaid of the cauſes, of ſleep: † an exceſſive indulgence in which, while it tends to induce an habitual diſtention of the veins, and ſinuſes, and perpetual compreſſion, of the brain; at the ſame time encourages the generation of blood, promotes a general plenitude, and groſſneſs of habit, and debilitates all the tones; and is, in both ways, injurious to health; and may lay the foundation of future Inſanity.

PERSONS in health, ſhould rarely indulge in ſleep during the day; ſhould go to bed early in the evening, and riſe early in the morning; ſhould allow themſelves ſo much ſleep, during the night, as they ſhall find, by experience, to be moſt conducive to bodily vigour, and mental alacrity; but ſhould care-

* See above, p. 305, and 325 of this Volume.

† See above, p. 306 of this Volume.

fully guard againſt ſuch indulgence, as ſhall give occaſion to habitual languor, liſtleſſneſs, wearineſs, torpidity, and drowſineſs; and ſhall thus, obviouſly, injure the health of the body, and impair the faculties of the mind.—Whoever allows himſelf about eight hours refreſhment in bed, out of twenty-four, will be in no great danger of Inſanity from an injurious abridgment of the hours of repoſe; and will uſually be found, I am perſuaded, equally diſtant from the oppoſite error, of giving too much time to the indulgence of ſleep.

For the temperate regulation of the *venereal appetite*; the dangerous tendency of an undue indulgence of which I have more than once had occaſion to mention;* I ſhall lay down no other rule, than that it be reſtrained within the bounds of what is allowed, by the ſanction both of God, and man; and that it be uſed with ſo much moderation, as, not to debilitate,

* See above, p. 181, and 261 of this Volume.

debilitate, but to animate, and ſtrengthen, both the body, and mind.

2. Of the effects of EXERCISE, in its various degrees, upon the body; of the neceſſary portions of it, and the latitude which may be allowed in its uſe, in different ages, ſexes, and conſtitutions; and of the tendency of inactivity to promote the production of Inſanity, I have treated pretty largely, under the head of remote cauſes.* I need ſcarcely, therefore, obſerve here, that when there is nothing in the ſtate of health to forbid it, it ſhould not only be uſed daily, but ſhould be frequently repeated every day: that ſeldom many hours ſhould paſs without riding, or walking, or making uſe of ſome ſort of bodily motion, either within doors, or in the open air, accordingly as the health, weather, or other circumſtances, may permit, or require: that it may ſometimes be briſk, vigorous, and continued for a conſiderable time; but ſhould never be violent, nor perſevered in to

* See above, p. 189—210, of this Volume.

any great degree of fatigue; and ſhould generally be moderate both in degree and duration: that however, with regard to its kind, degree, frequency, and protraction, every prudent man's own taſte, judgment, and experience, will be his beſt guides.

3. THE *regulation of the* PASSIONS is a very important object; and is as difficult as it is important. What has been ſaid above of their cauſes, and of their agency in the production of Inſanity,* at the ſame time that it points out their nature, and danger, will not only ſhow the neceſſity, but will be a guide to ſome of the means, of directing their aim, and of combating their violence.

THE chief means of combating the paſſions, and of keeping them within juſt bounds, are, ſo to form our eſtimate of the things of this life; and of the relation of our ſtate here to a future ſtate of exiſtence after death; and of the influence which our conduct

* See above, p. 328—431, of this Volume.

duct here, in which the good or bad management of our paſſions will have a principal ſhare, will have upon our happineſs, both here, and hereafter; as to be under the ſmalleſt poſſible temptation to be much agitated, or any way unduly influenced, by any of our paſſions: which, when ſuffered, in conſequence of an erroneous, and irrational eſtimate, of the value, and relation, of the things of this life, and another, to become violent, or unjuſt, are capable of inducing Inſanity, not only by their immediate effect upon the brain, but by the ſelf-condemnation, and remorſe, with which they are not unfrequently followed. Such a right eſtimate every rational man will labour to attain. He will endeavour, by correcting error, and acquiring ſuch habits as are conſiſtent with juſt ſentiments, to withdraw the nouriſhment from the very root of paſſion, rather than be forever fruitleſsly occupied in merely pruning the luxuriance of ſome of its branches. But as there are many to be guarded againſt the inroads of Inſanity, who have but

a ſmall

a ſmall portion of religion, and leſs of philoſophy; and who will ſcarcely be at much pains to acquire a larger of either; it may be proper to teach ſuch, how to moderate the paſſions which they cannot ſubdue; that, while they are in ſome degree figuratively, and morally inſane, they may not become ſo actually, and medically.

It may be uſeful for ſuch perſons to impreſs ſtrongly upon their minds the perſuaſion, that the indulgence of any paſſion to exceſs, and eſpecially of the ſelfiſh, and malevolent ones, is likely to be injurious to health; will certainly be deſtructive of ſerenity, and comfort; and, of courſe, by diminiſhing happineſs, will fruſtrate its own aim, and intention: and may, by repetition, acquire accumulated force, and facility of excitement; and become, at length, unconquerable, and habitual, and according to its nature, violence, and frequency, will, in a greater or leſs degree, be ſubverſive of happineſs, and leave us, more or leſs, open to the attacks of Inſanity.

Such

SUCH perſons will, therefore, ſee it highly expedient, while under the influence of theſe impreſſions, to do all in their power to avoid the occaſions of paſſion; to compare the urgency, and apparent importance of them, when they occur, with the probable diminution of the comfort, and health, of body, and mind, which the paſſion they would urge us to might induce; and to lay it down as a rule, never to indulge any paſſion whatever, till, independently of moral conſiderations, and the notions of duty, and obligation, they have deliberately reflected, whether the importance of the cauſe, will be a ſufficient counterbalance to the certain pain, of the paſſion, and the injury which may be thence derived to their health of body, and eaſe, and ſoundneſs, of mind. A habit of ſuch deliberation, once acquired; and it may be acquired, by diligence, and reſolution; will entirely put an end to exorbitant paſſions; ſince by checking the very beginnings of emotion, its growth, and progreſs, will be altogether prevented.

AND

And as every one has ſome weak part, on which he is more open to a ſucceſsful attack; ſome conſtitutional, or habitual, paſſion, whoſe approaches he cannot eaſily withſtand; all perſons who are convinced of the expediency, and neceſſity, of ſubduing their paſſions, if they would conſult their own eaſe, will be aware of the importance of keeping a diligent watch, and placing a ſtrong guard, upon the paſſion that moſt eaſily, and ſucceſsfully, beſets them.

And whoever would ſecure a reaſonable portion of preſent happineſs, will be ſenſible of the neceſſity of learning the art of contentment; which, difficult as it may ſeem to thoſe who have not uſed themſelves to check the wanderings of imagination, and to keep their deſires within prudent bounds, not only appears indiſpenſable, but eaſy, to the man who feels a lively, and practical, conviction, of its wonderful tendency to multiply the ſum of actual enjoyment.

With

WITH the ſame view of promoting, and ſecuring, their own preſent felicity, ſuch perſons will ſee the propriety of acquiring habits of good nature; and of cultivating the emotions of benevolence. And, as virtue ſeldom fails to bring with her own dowry, contentedneſs, and benevolence, will infallibly introduce habits of chearfulneſs; which, while they improve our happineſs, are a powerful preſervative againſt diſeaſe, and the determined enemies of Inſanity.

4. THAT the wanderings of IMAGINATION may be prevented, and its too great ardor, and activity, controlled, the moſt exact and unwearied attention ſhould be paid to its operations: and the man who is conſcious of its propenſity to ramble, or to become too active, ſhould ever be upon the watch, to check its firſt deviations, and to recall its activity, to ſobriety, and ſteadineſs; to fix it to one, and to a ſingle, and unvarying, view of one, ſubject; to habituate it to examined relations with accurate obſervation; and to diſtinguiſh between diſtant ſimilitudes,

and exact reſemblances. It ſhould rarely, therefore, be ſuffered to move with impatient, or unthinking levity, from one object to another; but ſhould be taught, with great care, and pains, to fix its attention on whatever comes in review before it; ſo that it may not only receive a proper impreſſion from it; but may keep it long enough in view for the due conſideration of its various properties, and the accurate inveſtigation of its ſeveral relations. Writers on ſubjects of imagination, or who miſuſe imagination on ſubjects of reaſoning, and inveſtigation, ſhould be carefully avoided, as too favourable to the growth of the natural propenſity; or ſhould be read but little, and with much caution; and their dangerous influence ſhould be counteracted, by the diligent peruſal of a few ſelect books of ſound, and philoſophical criticiſm.—Emotions of paſſion, as prone to excite the undue activity, and to encourage the erroneous operations, of imagination, ſhould rarely be indulged, and never to exceſs; and that uniform activity of imagination ſhould be inſtantly ſuppreſſed, which diſcovers itſelf in the frequent,

frequent, forcible, and unbidden intruſion, and recurrency, of the ſame fancy; and which, like its ſimilar activity when the mind is under the influence of any ſtrong paſſion, diſplays an inability to control it, or a very blamable inattention to its due government.

IN ſhort, the imagination ſhould ſo be ſubdued, and kept under, that the mind may be able to attend to reality, and the nature of things, and not ſuffer itſelf to be ſeduced by fancy; may learn to reaſon from objects themſelves, and not from words, which too often are no more than ſounds without a meaning; and may not be directed in its opinions by mere names, and authorities, without due and ſatisfactory, examination.—This leads me to the conſideration of the next method of avoiding Inſanity; which is—

5. AN aſſiduous diligence in the improvement of the reaſoning faculties of the mind; and a watchful avoidance of the various cauſes of its IMBECILLITY.

HE

He who has learned to govern his paſſions to reſtrain the precipitancy of imagination, and to fix, or withdraw, his attention, as may be moſt expedient, has laid a good foundation whereon to erect that firmneſs of mind, and ſoundneſs of judgment, which are the very reverſe of *imbecillity*; by which, as I have before ſaid, I underſtand that debilitated ſtate of the reaſoning faculties, which renders the mind incapable of withdrawing its attention from any train of thinking in which it is engaged; diſpoſes it to be carried away by the impulſe of paſſion, or to be deluded by the haſty and ſuperficial combinations of imagination; and is ſubverſive of ſelf-command, rational conduct, and ſound judgment.

This imbecillity has often its foundation in nature; but may be much increaſed, or diminiſhed, by education, and habit; which, while they are capable of ſtrengthening a weak mind, are able to debaſe the ſtrongeſt original faculties, and the beſt natural endowments.

To

To the rules, therefore, juſt laid down, relative to the government of the paſſions, and the conduct of the imagination; the obſervance of which is of great efficacy in invigoraring the powers of the mind; I ſhall here add a few others of a ſimilar nature, and tendency, and no way inferior in importance.

I WOULD adviſe all perſons who wiſh to improve their reaſoning faculties, and to avoid the cauſes of imbecillity of mind; beſides obſerving ſtrictly the above-mentioned rules; —to uſe themſelves to deliberate, on whatever comes under their conſideration, with great care, and diligence; to be at much pains to form clear conceptions of things; to bring their various relations, and connections, before the mind, as much as may be at one view, and to examine, and compare them, with the greateſt exactneſs; to be more careful to ſeparate, and diſtinguiſh, than ſolicitous to bring together, and combine, ideas, and notions; to combine them only after the ſevereſt, and moſt diſcriminating examination;

tion; anxiouſly to avoid all ſlight, and ſuperficial thinking; never to be contented with a mere ſmattering; to draw no concluſions which they are not perſuaded, after the moſt ſerious reflection, and the moſt ſcrupulous examination, that they may juſtly draw; and never to draw fixed concluſions, relative to any ſubject whatever, till it has paſſed in complete review before the mind, and has undergone the ſevereſt teſt of the moſt accurate ſcrutiny; and, after all, though rationally firm, and ſteady, to be ever prepared for farther information, and ever open to conviction; and though careful to withhold aſſent, till the force of evidence is complete, yet ready to yield it up to the ſuperior ſtrength of reaſon, and truth; to avoid prejudices of all ſorts; to diſlike none for difference of conduct, party, or opinion; to guard againſt credulity, and ſuperſtition; in a word, to cultivate benevolence, candour, a love of truth, and a love of virtue; but above all, to pay a particular attention to moral truth; and to ſpare no pains to acquire the moſt enlarged, and exalted notions, of the

the ſuitableneſs to our nature, of the importance, rectitude, truth, goodneſs, beauty, and happineſs, of virtue, and religion. That theſe valuable purpoſes may be attained, I would recommend it to all ſuch as have leiſure, and ability, that they ſhould eſpecially endeavour to acquire a habit of cloſe thinking, and exact reaſoning, by cultivating a taſte for mathematical ſtudies; by confining their reading on ſubjects of philoſophy, morals, or divinity, to the writings of ſuch authors as are eminent for ſtrict inveſtigation, and ſound reaſoning; and by making themſelves perfectly maſters of all their arguments relative to the ſubjects on which they treat.

THUS the paſſions being held in ſubjection, the vagaries of imagination reſtrained, and the powers of reaſon cultivated, and improved, a ſtrong, and invincible, bulwark, will be raiſed againſt the inroads of Inſanity from mental cauſes; and eſpecially—

6. IF

6. If we be careful to avoid too long continued, too intenſe, and too uniform thinking; which I have ſhown to be exceedingly unfriendly to the preſervation of mental ſanity; * and the avoidance of which ſeems to require no other rule, than what every man's prudence, and feelings, will ſuggeſt, relative to the interruption, moderation, and variation of thinking: and if we be cautious not to indulge too much in late hours, and long protracted lucubrations; or, in any reſpect, give way to exceſſive watching; † which are apt to be accompanied with intenſe, and uniform thinking; as well as otherwiſe to diſturb the functions of the brain; to diſorder, and debilitate the faculties of the mind; and to facilitate the approaches of Inſanity.

7. There

* See above, p. 291, and 325 of this Volume.

† See above, p. 325 of this Volume.

7. THERE are other cauſes of Inſanity, all of the bodily kind, the particulars of which may be collected from the table, againſt ſome of which no foreſight can entirely protect us; though the rules relative to the preſervation of bodily health, the regulation of the paſſions, the government of the imagination, and the conduct of the mind, above laid down, will both render us leſs liable to their attacks; and free us from much of their danger: and the account given of them as remote cauſes, to which I refer the reader, will furniſh many uſeful hints for the avoidance of ſuch of them as are more immediately in our power. I ſhall, therefore, paſs over the particular conſideration of them here; and proceed to the laſt, and moſt important, method, to be employed, with a view to the promotion of mental ſerenity, and comfort, and to the prevention of theſe unhappy diſorders, ſo far as they may originate from the mind; to which all the other rules relative to the conduct of the paſſions, the imagination, and the underſtanding, are preparatory, and inſtrumental; and that is—

8. To acquire rational views of GOD and RELIGION; free from ſuperſtition, enthuſiaſm, or deſpondency: and to obſerve a conſcientious, and chearful, performance, of the duties which religion preſcribes; equally diſtant from the moroſeneſs of a gloomy ſeverity, and from the levity of unwarrantable relaxation.

MEN would be more generally happy, they would have more true enjoyment of the bleſſings, and would be leſs ſenſibly affected with the misfortunes, of this life, had they right notions of GOD; of the nature, and means, of real HAPPINESS; and of its neceſſary connection with RELIGION, and their DUTY, with the *love of God*, the *love of man*, * and a determined *abſtinence from all intemperate indulgence*.

HE

* As I do not think it proper here to enter minutely into theſe very intereſting, and important, ſubjects; I ſhall ſatisfy myſelf with recommending to ſuch of my readers as are diſpoſed to enter ſeriouſly into the conſideration of them, two excellent diſcourſes of the late Biſhop BUTLER, the one on the *Love of God*, and the other on the *Love of our Neighbour*, publiſhed in the collection of his ſermons preached at the Rolls Chapel:—and alſo two other equally excellent diſcourſes lately publiſhed by Dr. PRIESTLY; the firſt *On Habitual Devotion*, and the ſecond *On the Duty of not living to ourſelves*; in which there are ſome very juſt reflections on the mental cauſes of Inſanity.

He who has right apprehenſions of the benevolence of the deity; of the beauty, of the ſuitableneſs to our nature, and, let me add, of the eaſy practicability to a well diſpoſed mind, of all that religion requires of us imperfect, but much favoured mortals; of the inward peace, and comfort, which the heart of man cannot fail to derive from the obſervance of its precepts; muſt ever be impreſſed with the moſt perfect gratitude, and affection, towards the creator, the father, and the friend of man, who has given him being, who preſerves, and protects him, in whom he every inſtant lives, and moves, and exiſts, who has furniſhed him with the means of happineſs, and will ſecure to him the enjoyment of it; and muſt experience ſo heartfelt a conviction that the knowledge, the ability, and the actual performance, of right conduct; that the ſtudy, and the obſervance, of the rules of religion, and virtue; are his beſt privileges, and his greateſt happineſs, and tend to the amelioration, and perfection, of his nature; as to conceive of God, as of a being from whom he has every thing good to hope, and nothing

evil to fear; for *perfect love caſteth out fear*; and to conſider the practice of religion as an eaſy, and delightful ſervice, not to be performed with reluctancy as a taſk, but with chearfulneſs, and alacrity, as a ſource of the moſt exalted pleaſure.

This ſeems to be the language of cultivated, and enlightened, reaſon, relative to God, and our duty; and it is, ſurely, the language of the holy ſcriptures; which tell us, in expreſs terms, that God is our *creator*, our *father*, and our *friend*,—that we are the *children*, the *ſons*, of God,—that *he giveth us all things richly to enjoy*,—that *every good and perfect gift is from above, and cometh down from the father of light*,—that *he openeth his hand, and ſatisfieth the deſire of every living thing*,—that *he exerciſeth loving kindneſs*,—that *he is good to all, and his tender mercies are over all his works*,—that *the earth is full of his goodneſs*,—that he is the *God of love, and peace*, the *father of all mercies, comfort, conſolation, and goodneſs*,—and that *his peace paſſeth all underſtanding*;—in ſhort, benevolence is ſo eminent a part of the character

racter of the great father, and benefactor, of mankind, that the ſcriptures tell us that GOD IS LOVE.

AND with regard to the practice of religion, and its ſuitableneſs to our nature, revelation aſſures us that *the law is written in our hearts*, and *we are a law unto ourſelves*,—that *his commandments, therefore, are not grievous*,—and *that his yoke is eaſy, and his burden is light*;—that is, that he does not require difficult ſervices, or unmeaning obſervances; ſuch as are repugnant to our nature, have no rational aim, and no tendency to promote our own good, or that of others; that all which is expected from us is only true, and ſincere repentance, and the pure ſervices of an upright heart, and honeſt intentions;—and that, the duties of religion being ſo congenial to our nature, ſo conſonant to our reaſon, ſo ſuitable to our feelings, ſo improving to the human heart, and underſtanding, and ſo every

way

way conducive to happineſs, as well in the immediate practice, as in the promiſed reward, having the promiſe of this life, and of that which is to come,—*her ways* cannot but be *ways of pleaſantneſs*, and *all her paths* muſt infallibly lead to the habitations *of peace*.

And for the encouragement of ſuch as have not been ſufficiently attentive to the voice of nature, and the exhortations of revealed religion; and have in any degree tranſgreſſed the bounds of duty to God, to themſelves, or to their neighbours; we are told that our benevolent father is *a God ready to pardon, merciful, and gracious, ſlow to anger, and of great kindneſs*,—who *pardoneth iniquity, and paſſeth by tranſgreſſion*,—who *retaineth not his anger forever, becauſe he delighteth in mercy*,—who *is long-ſuffering to us-ward, not willing that any ſhould periſh, but that all ſhould come to repentance*,—who *will not caſt off forever*,—and who *doth not afflict willingly, nor grieve the children of men*,—*for he knows our condition, and remembers that we are but duſt*.

But

BUT if God be ſo good and merciful, and ſo ready to forgive; if he be a God of perfect benificence; if he made us for happineſs, and has provided the means of obtaining it; if, when we had no exiſtence, he brought us into being, for the ſole diffuſion, and multiplication, of felicity,—and indeed, we can conceive no other motive for our creation;—ſurely it is out of the power of man to fruſtrate, by his folly, the benevolent intentions of the deity, who hath, probably, allowed him to ſtray from the paths of wiſdom and happineſs, but to convince him that there are no other; and who hath ſuffered him to wander, that, taught by his experience, he may, ultimately, return into the right way, and learn to wander no more. If he ſent his SON into the world, as the goſpel aſſures us, that all through him might be ſaved,—ſurely none ſhall be finally loſt!—Or, is his hand ſhortened, that he cannot ſave? ſhall any of the works of his power, and goodneſs, periſh? ſhall the creatures, which he made to be happy, be permitted to be finally wretched? be

ſuffered

ſuffered to make themſelves irrecoverably miſerable? Shall not the workmanſhip of God be complete? Though made liable to err, ſhall it not contain, within itſelf, that which ſhall, in the end, correct its errors? In a word, can the Almighty want power? Can the allwiſe want wiſdom? Can the maker of the world do wrong? Can he make man fallible, and leave him to tranſgreſs, and to be miſerable.

And if God be a wiſe, and benevolent, being, if his ſervice is an eaſy, and a reaſonable, ſervice, he cannot be the author of *ſuperſtition*; he cannot approve of a ceremonious devotion, in which the heart is but little concerned; he cannot impute merit to the ſcrupulous, and laborious, performance of unprofitable, and ſuperſtitious practices. He that hath ſaid, that on theſe two commandments, —*to love God with the whole heart, and to love our neighbours as ourſelves*,—hangs all the law and the prophets;—and that the *love of our neighbour is the fulfilling of the law*;—he cannot

cannot give a ſanction to ceremonies which have no relation to the love of God, or the love of man: he cannot mean to attribute merit even to faith, but ſo far as it tends to enlarge, and ennoble, our minds, by right notions of the power, and wiſdom, and purity, and an unſhaken truſt in the benevolence, of his nature; to inſpire us with the love of our creator, and of our fellow creatures; and a deſire, with the bleſſing of God to attain, by the performance of his will, and an *imitation of the divine nature*—humble indeed, and at an awful and infinite diſtance, and without preſumption, and ſo far only as human nature may be permitted, and enabled, to imitate the divine,—to attain, as much as may be, to the *perfection of our own.*

But whatever may be our attainments, it is our duty, and our intereſt; for duty and intereſt always go hand in hand; ſtill to be humble, and unpreſuming. Shall he be proud who has nothing which he ought to call his own? even had we more cauſe to take to ourſelves merit, than any of us can pretend to; pride is too

ſelfiſh an emotion to be indulged with conſcious approbation; and too little productive of rational pleaſure, and ſubſtantial happineſs, to be purchaſed at the expenſe of the beſt feelings of the human heart, and of the nobleſt exerciſe of chriſtian duty, the feelings and exerciſe of active, and diffuſive, benevolence. Pride is a comparative emotion; and a malevolent one; it is raiſed on the debaſement of others; and levies *ſelf-applauſe*—if it can—at the expence of general good will, and affection. It is, indeed, unworthy of our nature; it makes us ſtoop from our real dignity; and is a proof of our deficiency both in virtue and happineſs, while it would arrogate a plenitude of both. Every rational, and ſincere chriſtian, will, therefore, ſee it to be his duty, and his intereſt, as he will feel it to be his inclination, to guard againſt the emotions of ſpiritual pride; and that ſort of *enthuſiaſm*, which is grounded upon the notions of extraordinary excellency, and the peculiar approbation, and friendſhip of God; as proceeding from irrational views of God and Religion, as unſuitable to human infirmity

mity, as inconſiſtent with human duty, as tending to diminiſh human felicity, as partaking of the nature of Inſanity, as calculated to promote the introduction of greater degrees of it, and as paving the way to the oppoſite diſpoſition of mind, and leading to the other extreme of religious *deſpondency*. Every rational, and judicious chriſtian, will ſee it to be his intereſt, to do his duty, without vain pride, or unmanly humility, and debaſement: perſuaded, on the one hand, that as pride is inconſiſtent with his duty, and intereſt, ſo likewiſe, that there is no merit in his beſt performances, and that after he has done all, he is, with regard to the deity, an unprofitable ſervant: and perſuaded, on the on the other hand, that he ought never to give way to *deſperation*; that his imperfect, and ſincere ſervices, will be rewarded with happineſs, poſſibly in this world, and certainly in the next; and, however conſcious of guilt, alſo perſuaded that his very fears will be accepted of as repentance; that our benevolent creator will never deſert the workmanſhip of his hands, or give up to per-

dition the beings whom he has goodneſs has brought into exiſtence; that our heavenly father will never caſt off the children of his affection; and that our gracious friend will never forſake the friends whom he has choſen, who look up to him for protection, and whom none can doubt that he is *able to ſave to the uttermoſt*.

WITH ſuch notions, and ſuch proſpects the ſincere chriſtian will conſcientiouſly, and chearfully, perform the duties of his ſtation, and will go on his way rejoicing; he will exerciſe TEMPERANCE, and do every thing elſe which may promote the health of his body; he will keep his PASSIONS in ſubjection; he will regulate the operations of IMAGINATION, check its *activity*, and reſtrain its wandering; he will diligently cultivate the powers of the *mind*, and guard againſt every cauſe of its IMBECILLITY; he will avoid as much, as may be, too *long* continued, too *intenſe*, and too *uniform*, THINKING; and unſeaſonable WATCHING; and, to all this, adding, ſuch rational views of

God and religion, as will infallibly inſpire the moſt reverent love of the deity, and the moſt generous and diſintereſted benevolence toward man; he will have erected as ſtrong a fortification againſt the aſſaults of Inſanity, both from bodily and mental cauſes, as it is in the power of human prudence to raiſe.

F I N I S.

A CATALOGUE of the principal BOOKS quoted, or referred to, in this Volume.

Neuropathia: ſive de Morbis Hypochondriacis, & Hyſtericis, Libri tres, Poema Medicum, cui præmittitur Diſſertatio Epiſtolaris proſaica ejuſdem Argumenti. Auctore *Milcolumbo Flemyng*, M. D. 8vo. Eboraci, 1740.

Theophili Boncti ſepulchretum, ſive Anatomia Practica; ex Cadaveribus Morbo denatis. In III Tomos diſtributa. Folio. Editio altera. Genevæ, 1700.

Jo. Baptiſtæ Morgagni de Sedibus & Cauſis Morborus per anatomen indagatis. Inter Opera Omnia in V Tomos Diviſa. Folio. Venetiis, 1763, 4, & 5.

Simpſon's Inquiry how for the Vital and Animal Actions of the more perfect Animals can be accounted for independent of the brain. In five Eſſays. 8vo. Edinburgh, 1752.

Simpſon's de Re Mediea Diſſertationes quatuor. 8vo. Edinburgh, 1726.

H. D. Gaubii Inſtitutiones Pathologiæ Medicinalis. 12mo. Edinburgi, 1762.

Arburthnot's Eſſay concerning the Effects of Air on Human Bodies. 8vo. London, 1751.

Monteſquieu's Spirit of Laws. 12mo. Edinb. 1772.

Bryan Robinſon's Obſervations on the Virtues and Operations of Medicines. 8vo. Dublin, 1752.

Linnæi Amœnitates Academicæ. 7. Vol. 8vo. L. Bat & Holmiæ, 1749—1769.

Sir

UNIVERSITY OF BRISTOL MEDICAL LIBRARY

Sir Isaac Newton's Opticks. 8vo. London, 1730.

Abrahami Kaau Boerhaave Impetum Faciens dictum Hippocrati per Corpus consentiens philologice & physiologice illustratum &c. 12mo. L. Bat. 1745.

The Works of *Robert Whytt*, M. D. 4to. Edinburgh, 1768.

Johannis Junckeri Conspectus Physiologiæ Medicæ & Hygieines &c. 4to. Halæ Magdeburgicæ, 1735.

Alexandri Stuart Dissertatio de Structura & Motu Musculari. 4to. London, 1738.

Turner's Treatise of Diseases incident to the Skin. 8vo. London, 1726.

The Foreign Medical Review. 8vo. IV Nnmbers, making one Volume. London, 1779—80.

BATTIE's Treatise on Madness, 4to. London, 1758.

Thomæ Willis Opera Omnia. Ed. a Blasio. 4to. Amstelæd, 1682.

Hermanni Boerhavii Praelectiones Academicæ de Morbis Nervorum. Edit. a Jacobo van Eems. 12mo. 2 Tom. L. Bat. 1761.

Cours D'Operations de Chirurgie, demontrees au Jardin Royal par *Mr. Dionis*. 8vo. A. Bruxelles, 1708.

Georgii

Georgii Baglivi Opera Omnia Medico—Practica, & Anatomica. Editio octava, &c. 4to. Lugduni, 1714.

Tissot's Letter to Zimmerman on the Morbus Niger. Translated from the French by John Burke, M. D. 8vo. Lond. 1776.

Gualteri Harris de Morbis Acutis Infantum. 8vo. London, 1705.

Andry de la Generation des Vers dans le Corps de l'Homme. 12mo. A Amsterdam, 1701.

Medical Tracts of the late *John Wall*, M. D. of Worcester. Collected and republished by *Martin Wall*, M. D. 8vo. Oxford, 1780.

Joannis Raii Historia Plantarum. Folio. Tomi III. Lond. 1686.

Linnæi Materia Medica per Regna tria Naturæ &c. Edit. a Schrebero. 8vo. Lipsiæ, 1772.

P. Alpini de Medicina Egyptiorum Libri IV. & *Jacobi Bontii* Medicina Indorum. 4to. Parisiis, 1645.

Baron Riedesſel's Travels through Sicily, and that part of Italy formerly called Magna Græcia. Translated by J. R. Forster, F. R. S. 8vo. London, 1773.

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